IIIL

# DENTAL DIGEST

OCTOBER 1909 VOL.XV. NO.10.

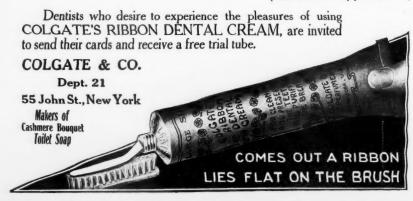
GEORGE WOOD CLAPP, D.D.S.

## Colgate's Ribbon Dental Cream polishes enamel without scratching it, keeps gold work bright and prevents mucous or calcic deposits.

Letters from well-known dentists are enthusiastic in their praise of the benefits which COLGATE'S RIBBON DENTAL CREAM confers on their patients. Whether in the care of the natural teeth or of dentures, its cleansing, antiseptic action is productive of the most pleasing results.

- I. "It is positively the first cream I have found that will polish gold crowns and bridge-work in the mouth."
- 2. "The best product for a tooth-polisher and a gold-polisher at the same time."
- 3. "I find your Cream to be an excellent article, very good to keep gold-work bright, such as gold fillings, crowns, and bridge-work."
- 4. "Have tried the various dental creams on the market and find yours to excel them all, particularly on crown and bridge-work."

(Names on application.)



#### CONTENTS FOR OCTOBER, 1909

CONTRIBUTED ARTICLES	PAGE
Selecting Tooth Outlines Harmonious with the Face,	
GEORGE WOOD CLAPP, D.D.S.	683
Dentistry An Aid in Medicine and Surgery, . C. H. NEILL, D.D.S.	691
The Relation of the Dentist to the Rhinologist, . C. W. TALBOT, M.D.	694
The Relation of Professional Dentistry to the Commerce of Dentistry,	
T. LEDYARD SMITH, D.D.S.	698
BUSINESS BUILDING	
Dental Salesmanship, 703; What Would You Do in This Dentist's Place? 706; A Reply to a Question, 710; Letter to the Editor, 711; An Interesting Comparison of Fees, 712.	
BROTHER BILL'S LETTERS	713
DIGESTS	
Recurrent Caries, 718; Another Viewpoint of the Taggart Case, 728; Sense and Nonsense as Taught in American Dental Schools, 730.	
SOCIETY AND OTHER NOTICES	L-744
INDEX OF ADVERTISERS, page 58 of advertising section.	

#### WHEN THE FROST IS ON THE PUNKIN



ch rs atcic S.

> HEN the frost is on the punkin and the fodder's in the shock, And you hear the kyouck and gobble of the struttin' turkey-cock, And the clackin' of the guineys, and the cluckin' of the hens, And the rooster's hallylooyer as he tiptoes on the fence; O it's then's the times a feller is a-feelin' at his best, With the risin' sun to greet him from a night of peaceful rest,

As he leaves the house, bare-headed, and goes out to feed the stock, When the frost is on the punkin and the fodder's in the shock.

The husky, rusty rustle of the tossels of the corn, And the raspin' of the tangled leaves, as golden as the morn; The stubble in the furries-kindo' lonesome-like, but still A-preachin' sermons to us of the barns they growed to fill; The strawstack in the medder, and the reaper in the shed; The hosses in theyr stalls below-the clover overhead! O, it sets my heart a-clickin' like the tickin' of a clock, When the frost is on the punkin and the fodder's in the shock!

" Old-Fashioned Roses." - JAMES WHITCOMB RILEY.



#### QUOTATIONS.

"Proper instrumentation and Glyco-Thymoline Cure Pyorrhoea." "It is soothing, very healing, and a powerful deodorant."

"We prescribe it exclusively, after extractions, and sore mouths are a thing of the past."

"I prescribe Glyco-Thymoline for all diseases of the oral cavity,

offensive breath, ill-fitting plates, etc., and find my patients in their appreciation of its merits, give new assurance of its worth, and their continued use."

"A most inviting solution."

"If I can get as good a compound as Glyco-Thymoline by just writing to Kress & Owen Co., 210 Fulton St., N. Y., for it—here goes."

## THE DENTAL DIGEST

GEORGE WOOD CLAPP, D.D.S., Editor

Published monthly by The Dentists' Supply Company, 47-65 West 42d Street, New York, U. S. A., to whom all communications relative to subscriptions, advertising, etc., should be addressed.

Subscription price, including postage, \$1.00 per year to all parts of the United States, Philippines, Guam, Cuba, Porto Rico, Mexico and Hawaiian Islands. To Canada, \$1.40. To all other countries, \$1.75.

Articles intended for publication and correspondence regarding the same should be addressed EDITOR DENTAL DIGEST, 47 West 42d Street, New York, N. Y.

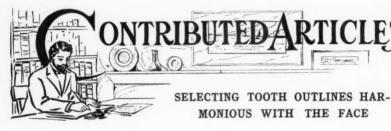
The editor and publishers are not responsible for the views of authors expressed in these pages.

Entered as second-class matter at New York, January 29, 1909, under the Act of March 3, 1879.

Vol. XV

OCTOBER, 1909

No. 10



BY THE EDITOR \*

The merest glance at the faces of our various patients, reveals the fact that they are of every variety of proportion. The long, narrow face of one is followed by the short, wide face of another. The next patient may have a long, wide face, and the following patient a face that is short and narrow.

A further glance reveals, in the majority of faces, a general harmony of proportions between the different parts of the same face. The long face is not long in one part only, but usually exhibits a high forehead, a long nose and a long chin. If the face as a whole is narrow, these individual parts are likely to be narrow in harmony. If the face is short as to its total length, each of the parts mentioned above is likely to be short about in proportion.

These various proportions result in different curves as one feature

<sup>\*</sup> This article is merely a development of an idea advanced by Dr. F. H. Berry, Milwaukee. No claim for originality is made or intended.



Illustrations of three faces of nearly the same vertical height but different outlines

blends into another. And to us as dentists, these proportions and curves should be of great interest.

To the dentist who desires to do prosthetic work well, the facial proportions of each patient are very important. An observance of them will greatly increase the artistic quality of his labors, while neglect of them may spoil the artistic appearance of a mechanically excellent piece of work.

There is a pretty constant relation between the proportions of any face and the proportions of the natural teeth in that mouth. If a person has a short, wide face the anterior teeth are usually short and wide; if the face is long, the teeth are usually long also.

This harmony of proportions and curves between the face and the teeth, may readily be maintained when selecting teeth for plates, crowns or bridges. Artificial teeth are offered in such variety of moulds that they may be selected to harmonize with any face; and thanks to the method suggested by Dr. F. H. Berry of Milwaukee, such selection is made very easy.

It may be urged that such attention to detail is a refinement of practice not warranted by the results or by the prices received for plate work. To this objection there are several good answers.

The first and most mercenary is that such attention to details pays, provided the dentist is salesman enough to impress his patient with the value, physiological, practical and artistic, of his work. Given the dentist who has learned as much about salesmanship as a \$20.00 a week clerk must know, the most careful attention to detail pays well. It produces visible results more pleasing to the eye and gives him better selling arguments.

An illustration of this may not be amiss. In a certain suburb of New York, two dentists practise in adjoining blocks on the same street. They cater to the same public, but from that public they have sifted, by their own salesmanship, entirely different clientèles. The one who has been there longest does not pay close attention to details. He makes plates on a hit-or-miss plan, selecting the teeth largely by antiquated methods and setting them up on the plans common years ago. With everything in his favor, save his own mental attitude, he has not advanced as he should have done. His clientèle is composed of people whom he has not educated to pay in proportion to the other prices common in the community. Those of his patients who desire the best dental services are leaving him because he does not offer what they seek and does not know how to sell what he does offer.

In the next block practises the other dentist. It is a business street and the same people pass both doors. The second dentist does two things, the first does not; he keeps up with the advance of the profession and he knows how to sell his service at remunerative fees. Note the result as applied to plate work: The first dentist gets \$15.00 for a vulcanite plate and occasionally \$75.00 for a gold one. The second dentist gets, regularly, \$30.00 for a vulcanite plate (\$60.00 for upper and lower), from \$100.00 to \$125.00 for a gold plate, and has much the larger amount of work. When the second dentist makes a plate it satisfies the eyes and meets the requirements of mastication. Similar results, professional and financial, are possible to most dentists who will take pains with the details.

The second answer, and the more professional one, is that we should do our work as well as possible. Denture making may be a work of art as well as of mechanics. The esthetic side of a denture is very important to the patient, nearly as important as the mechanical side.

Dr. Berry, writing in *The Dentist's Magazine*, suggested a method of securing artistic harmony between the curves of the face and the

outlines of the teeth in a denture or bridge, which is worthy of more attention than it has apparently received.

The theory is practically this: that the outline of the face, seen full front, is very similar to the outline of the natural upper central, only the tooth outline is inverted.

While this may be subject to those variations which are common in nature, it will be found true in a large proportion of cases, and in this particular gives the dentist an excellent starting point for selection.

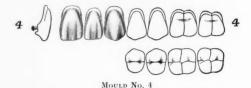


The white line shows the outline of this face

The outline of the face is formed by a line drawn horizontally across the forehead, half way between the hair and the eyes, down the sides of the face to the angles of the jaw and along the lower margin of the lower jaw.

The writer has given Dr. Berry's theory to several dentists. They have been so uniformly pleased with it that it is worth publishing here, accompanied by a few hints to make its application easy.

Suppose you are to make a full upper plate. The bites are properly made and marked. They hold the jaws apart in normal relations, so that the original proportions of the face are restored. The marks which determine the sizes of the teeth are made on the bite,\* and we now wish to determine the character of the anterior teeth; whether the centrals shall have wide or narrow necks and rounding or flat curves. The importance of having this outline of the central harmonious with the curves of the face can be seen by comparing the outlines of the centrals in four moulds of the same size, Moulds 4, 11, 14, and 41, shown here.† These moulds all exhibit the same length of central, the same combined width of anteriors, and are within three millimeters the same width in the full set.‡ Note how different are the outlines of the anteriors.



Here we have a tooth of medium width in the incisal third with the outline sloping to a medium wide neck by rather flat approximal curves in the cervical third. If the collar be left out of the question (it will be covered with vulcanife in the denture) it will be seen that the outline fits this tooth to harmonize with faces which are rather thin through the cheeks, something like the man's face on page 684. It can be seen immediately that a mould with this outline would be artistically contraindi-

\* For directions how to determine the dimensions of the teeth required for the ease, see THE DENTAL DIGEST for 1909 at pages 8 and following; 119 and following; 213 and following; 295 and following; or address the Editor.

† The moulds shown and mentioned in this article are all Twentieth Century Moulds as I am much more familiar with them than with others.

†These are all medium size moulds and are extensively used. The dimensions of the centrals are as follows:

Length, 10 mm.; width, 7 mm., combined width 6 anteriors 43 mm.

Similar variations of outlines in moulds of similar size can be shown in any group. This variation of outline is intentional on the part of the tooth manufacturer, in order that dentists may meet different artistic requirements in a given size of mould.

cated in faces like those of either lady on page 684, whatever might be the size of the mould indicated.



MOULD No. 11

Here the greatest width of the central is the same as that in mould No. 4 and the width of the neck is about the same. But that neck is reached by more rounding approximal curves than in mould No. 4. The slope of the incisal edges of the centrals, as related to the long axes of the teeth, indicates that they are intended to be set on more of a slant than the centrals in mould No. 4, and should be used only in cases where such a slant will be becoming.

These centrals are suited for patients with fuller cheeks than those mentioned under mould No. 4.

In keeping with the rounder curves of the outlines, the labial surfaces in this mould are more bulging than those in mould No. 4.



MOULD No. 14

The centrals in this mould have wider necks than in mould No. 11 and reach them by slightly rounder curves in the cervical thirds. They are thus suited for faces with slightly fuller cheeks and wider chins.

This mould is immediately distinguished from mould No. 11 by its up and down straightness. It is indicated for those faces which have "a perpendicular look" where the curves of the early years have given way to the more vertical lines of middle age, as in the picture of the older lady.



Mould No. 41

The necks of the centrals are wide, and the approximal curves are quite flat. Here is a central artistically suited for a case where the chin is very wide and the sides of the face are nearly perpendicular.

Now by contrasting the anteriors of moulds Nos. 4 and 41 in the



light of this little study, we see how great are the variations in outline, how important they are to the artistic side of the denture, and how wide apart are the indications for the selection of the one or the other of the two moulds which are of the same size and which meet practically the same mechanical requirements.

The application of this information to the needs of practical work is quite simple. It requires only a lead pencil, a sheet of paper and the same mechanical eye that is inseparable from the successful practise of dentistry. Most assuredly it does not require the dentist to be an artist or to have had artistic training.

In the early stages of this work, it will greatly help to educate the eye if one blocks out on paper the shape of the patient's face. With greater experience, this becomes unnecessary. But it is educational and helpful anyway.

Do not feel sensitive or foolish about doing this. Your patient will appreciate it. It will be in his eyes a testimonial to your skill and pains, and he will feel that in those parts of the work which he does not see, the same skill is being exercised in his behalf.

To block out the face, proceed as follows: Have the patient sit upright and directly facing you. Hold your pencil as shown in the illustration and slide the thumb nail on the pencil till it comes in line with



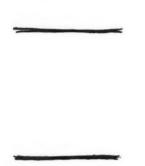
Getting the first dimension for blocking out an outline of the patient's face. Arm must be extended full length

the patient's chin. Keep the thumb in that position, lay the pencil on the sheet of paper, mark where the end of the pencil and the thumb nail rest, and draw two horizontal lines at those points. This gives the first dimension for our diagram.

The next step is to get the width of the face. This does not need to be exact but must be proportionate to the height as just laid out on the paper. To get this it is necessary only to stand at the same place, fully extend the arm as before and turn the pencil horizontally across the widest part of the face, usually at the level of the cheek bones.

The reason for having the arm fully extended is now manifest. When it is fully extended each time, it gives proper proportions, but if it be crooked when measuring, it may not be crooked twice alike and the proportions may then be incorrect.

When the width of the face has been marked by sliding the thumb along the pencil, two vertical lines are made across the horizontal lines



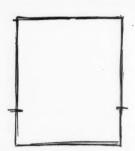
Horizontal lines drawn on paper at locations of end of pencil and of thumb



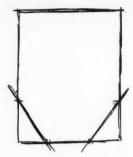
Horizontal liens with perpendicular lines indicating the width of the face drawn across them

at this distance apart. The resulting diagram gives us the general proportions of the face.

By purely mechanical steps we can carry this plan forward till it gives us the necessary details. Hold the pencil again upright and measure the distance from the level of the chin up to the angle of the jaw and mark on the perpendicular lines the distance thus obtained. Turning the pencil horizontally, measure the width of the chin and lay off this distance in the center of the lower horizontal line. Then draw lines from the marks locating the angles of the jaw to those marking the width of the chin as shown here. The face is now pretty well blocked in and it is necessary only to round off the sharp angles in our diagram. In doing this, note whether the curves of the patient's face are long and



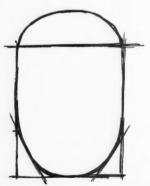
Height of angles of jaw laid off on perpendicular lines



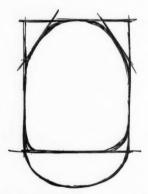
Lines from angles of jaw to corner of chin. They roughly indicate the shape of the border of the lower jaw

even, or short and abrupt, and make your own accordingly. Rounding off the curves in this diagram gave the outline shown here. That part above the upper straight line was the top of the head and was sketched in to help preserve the symmetry, but this is not really necessary.

When the diagram has been thus far filled in, it remains only to in-



Curves of face drawn in diagram, following character as exhibited by patient



Outline inverted and corners rounded as for a tooth

vert the drawing, and sketch in a couple of curves for the mesial and distal incisal angles of an incisor. The outline will be found a surprisingly good imitation of a central.

A tooth selected by this method is pretty sure to be harmonious with the patient's face and may distinctly aid the dentist in his efforts toward artistic prosthetic work.

#### DENTISTRY AN AID IN MEDICINE AND SURGERY

BY C. H. NEILL, D.D.S., FAIRMOUNT, W. VA.\*

WHILE I cannot hope to add materially to what has perhaps been better said upon this subject by others, I am prompted in the interest of harmony and concerted efforts of our professions, to take up this much-discussed subject, more in the hope of magnifying knowledge which the physician already possesses than in exploiting and expounding new theories of my own.

The time has long since passed when the practitioner of medicine attempted to master the knowledge of anatomy and pathology in their entireties, and we are now living in an age of specialism. The great majority of successful physicians and surgeons to-day are those who have limited themselves to the several branches into which our mother profession has been divided.

It is not necessary for me to tell you that we all have our favorite branches and our "bug bears" as well. We are all aware in which branches we are the most proficient and wherein we are willing to pursue our own ideas of curative treatment, regardless of the opinions of our fellow practitioners, and we are all as fully aware of the branches wherein our knowledge and skill are surpassed by that of some practitioner who has specialized in that particular branch. Thus it is that the physician must seek counsel and assistance from the surgeon, the surgeon from the anesthetist, and so on, each of you appreciative and respectful of your brother's knowledge and skill in his specialty. And yet there is still the lingering remnant of traditional tribalism which seeks to disinherit the dentist from the rich legacy general medicine bequeathes to specialism. There are still among us those who contend that dentistry is but a high order of mechanical skill, and cannot become allied with medicine. But whether the physician wills or not, the irresistible trend of evolutionary forces cannot be stayed; the coalition is already upon us, and the dentistry of to-day and of the future comprises the same high order of prosthetic work supplemented by the medical skill of the stom-In our reciprocal relationship medicine is fast becoming a part of dentistry as dentistry must and shall become a part of medicine.

We of the present generation have laid our foundation of dentistry in a scientific study of the anatomy, physiology and chemistry of the mouth as a part of the body as a whole, and it is upon this foundation

<sup>\*</sup> Read before the local society.

that I base my claim for the recognition of our services to the general practitioner, physician or surgeon.

Since the tissues of the mouth, including the teeth, are nourished by the same circulation, receive the same innervation through motor, sensory, and trophic nerves as supply other parts of the body; are subject to the same laws of growth, repair, disease and decay as dominate the functions of every organ of the body, why does not the physician give these parts the same painstaking consideration that he bestows upon other portions of the anatomy, which in their relation to the general health may not be so vital? It is a painful fact that the average physician pays practically no attention to the condition of the mouth. Writers upon medical subjects seldom mention the mouth as an etiological factor in the production of disease.

We are daily confronted by digestional disturbances which the physician usually attributes to indiscretions of diet, and nothing is said about the mouth with its thirty odd inches of surface covered with all kinds of infection, or of the importance of vigilance in this germ-covered area.

That infection of the mouth may play an important part in the production of disease in the gastro-intestinal tract or in other parts of the body has largely escaped the attention of the medical profession. Smith stated that he had seen disturbances of digestion, nervousness, irritation of the kidneys and many other pathological conditions cured by no treatment other than through disinfection of the mouth. Sir Edward Treves states, "If people were a little more careful about their teeth they would not need to be so careful of their diet." Who could wish for a more rational explanation of gastro-intestinal disturbances than a constant infection from a purulent mouth? I believe that the more attention you give your patients as regards the condition of the mouth, the more you will be in accord with the positions taken by such writers as Smith, Register and others, and that you will profit accordingly as they have.

If you will examine the mouths of your patients before an operation you will frequently find one or more teeth missing, the remaining ones often covered with a deposit of tartar and putrescent matter. Sometimes there is an abscess of a tooth with pus discharging into the mouth, and in many cases there are marked symptoms of pyorrhea alveolaris and the mouth is alive with infection. Is it not plausible that the risk in operating upon such a patient is much greater than if the mouth were in a healthy condition? A patient whose mouth is in the condition described will absorb a certain amount of toxins, which will lessen the resistance of the tissues, change the chemical composition of the blood, have a vicious influence on all the organs, and will predispose the sub-

ject to many diseases. If a patient in such a condition be given an anesthetic, after the operation the emunctories will be called upon to eliminate not only the anesthetic, but the toxins which have accumulated within the body. At this time the kidneys are the chief organ of elimination and if the amount of toxins passing through them be sufficient to cause an acute nephritis with diminished functional activity, is it not plausible that the patient may succumb from renal insufficiency?

When the mouth is alive with germs it is certain that these and their products will be swept into the intestinal tract where they may cause fermentation with the formation of gas, distention of the bowels, or even disease of a specific character.

If no attempt is made to lessen or remove the amount of infection carried from the mouth to the gastro-intestinal tract after the operation, the fermentation continues, the bowels distend with gas, the patient is uncomfortable and the surgeon has just cause for worry lest his patient be developing peritonitis.

Careful attention to the teeth and thorough disinfection of the mouth should begin in infancy, when the gastro-intestinal tract is most susceptible to bacterial infection.

Dr. Stephen E. Tracy, gynecologist to the Stetson Hospital of Philadelphia, in an article on appendicitis gives us the following:

"During the last year I have operated upon a number of children from two and a half to seven years of age, and upon examination it was found in nearly every instance that there were badly decayed teeth and in no case had any attention been given to cleansing the teeth or disinfecting the mouth. I shall not go so far as to say the acute condition was caused entirely by gastro-intestinal infection from the mouth, but I do believe it was a factor. Infection of the mouth, carried continuously into the sensitive stomach of a child will, the same as bacterial infection from milk or other sources, cause a catarrhal condition which will in time extend the whole length of the gastro-intestinal tract and include the vermiform appendix in its course."

We see on every hand the worthy crusade against infected milk, yet that same milk is unthinkingly allowed to pass through purulent fields in the mouth where it is charged with a veritable menagerie of bacteria, and all the precautions of former pasteurizing and sterilizing are set at naught.

In considering the subject of infection from the mouth, we must not overlook the respiratory tract. When a patient inhales an anesthetic through a badly infected mouth and pharynx the infection may be carried into the lungs, which after the irritation of the anesthetic have not their normal resistance. I have no doubt that many cases of post-

operative pneumonia have been caused by the inhalation of septic material from the mouth.

In this way I might enumerate many more plausible theories of systemic disturbances which could be traced to mouth infection as their origin, but I feel that it is as well to administer these ideas in broken doses, lest by trying to cover the entire subject at once I should touch each branch so lightly as to leave only a transient impression. In my estimation this field would furnish abundant material for investigation on the part of the progressive physician or surgeon, and we might profitably listen to discussions or papers concerning the relation of the mouth and teeth to the several divisions of the practice of medicine and surgery.

#### THE RELATION OF THE DENTIST TO THE RHINOLOGIST

BY C. W. TALBOT, M.D., SPOKANE, WASH.

In view of the recent excellent work on the part of the orthodontists and rhinologists in the correction of deformities of the face or more particularly those of the jaw, a brief review of the current literature will be of interest not only to the dental profession but to the general practitioner of medicine.

The classical experiment of Levin as well as those of Ziem, of permanently closing one nostril of young animals after which there was noted a corresponding lack of development of that side of the face, is well known, and since that time various modifications of the experiment have been performed, such as that of Colliers, who found that a bilateral lack of development followed the closing of both nostrils.

Mouth breathers are by no means rare and to the dentist the most interesting effect is the development of deformities of the jaws with irregularities of the teeth.

Nasal obstruction is not only the most frequent cause of malocclusion but malocclusion with an underdeveloped superior maxilla increases the nasal deformity, thereby usually increasing the obstruction, a case of cause producing an effect which in turn increases the cause.

As to the primary factors in mouth breathing we find as predisposing factors heredity and racial characteristics, degeneracy and perverted cell action; diathetic disorders, syphilitic, tubercular, or rachitic; traumatism to the nose either in utero, during delivery or in early childhood; malnutrition and infectious diseases; while adenoids and hypertrophies are actual factors in the causation of this trouble.

Mouth breathing, malocclusion, nasal obstruction and nasal deformities all being so closely related and dependent one upon the other, it is becoming more common every day for those specializing in rhinology to send their little patients, after having removed their adenoids and tonsils, to their professional friends specializing in orthodontia, who in turn often first refer their cases of malocclusion to the rhinologist for the removal of nasal and post-nasal obstructions.

While nearly all rhinologists acknowledge the importance of irregularities of the superior maxillary as a factor in the production of nasal obstruction, particularly septal deformities, yet many of them are so enthusiastic over sub-mucous resection that the orthodontist is seldom called upon to perform his part, the most important, of the corrective technic.

All are agreed that the excision of hypertrophies, such as turbinates, spurs or deflected or thickened septums is not only beneficial but generally absolutely necessary, yet the tendency to remove too much tissue constitutes a real danger, in that it approaches a state in which the nares become too roomy and assume an atrophic condition.

Black says he believes it far better to attempt to increase the size of the nasal fossae *first* and then proceed to remove any superfluous tissue should it still be found necessary.

To do this the method of Brown is advised, the separation of the median suture of the superior maxillary bone, which permits the V-shaped arch of the palate to resume a more normal curve and at the same time permits the septum to straighten up, thus giving more room to the nasal fossae by the separation of the nasal processes of the maxilla on both sides.

This is done by an appliance which exerts an equal pressure on all teeth, that is the pressure is made to extend high up by the proper amount of counter force to the more rigid portions in the regions of the malar processes and while by this method there is an increased space produced between the central incisors yet they have not been displaced with the attending osteoclastic absorption which usually follows the ordinary methods.

The treatment is without pain and the tightening can be done at home; usually two weeks are sufficient as the expansion may continue for a while after the appliance is removed.

This procedure for widening the arch of the maxilla and thereby enlarging the base of the nares is essentially different from the usual methods of expansion for the correction of abnormally placed teeth, for it not only relieves the pressure on the septum, permitting it to straighten, but increases the breathing space by an increase in the width of the base of the nose so that there is a larger volume of air inhaled, which is followed by a diminution in the size of the turbinates due to the disappearance of venous stasis.

Unless proper nasal breathing is established early in the formative period, there will be an interference with the proper formation of the arch as well as the sinuses, which not only affects the nose and face but the resonance of the voice as well, so that we should correct any irregularities of the teeth as soon as noticed. We may expect irregularities when the permanent teeth erupt if there has been any malposition of the deciduous teeth. And we can expect the irregularity to be more marked, for the permanent teeth need more room for their eruption than do the deciduous teeth. If there is no separation of the deciduous incisors at the age of six years, Bogue maintains that we may be reasonably certain that there has been an arrested development of the arch, which means that the teeth will not only come in irregularly but the nares will be correspondingly smaller with the attendant septal deflections.

If mouth breathing and the developmental deformities are not corrected early, the osseous and cartilaginous structures become so firm that it is with difficulty that they can be corrected; for the maxillary bones ossify at an early age and the deformities are more easily remedied before complete ossification even though the sutures of the palate processes do persist until after adult life.

Talbot gives two periods in which the developmental irregularities may occur, "the first period of stress" about the eighteenth week of fetal life and the other or "second period of stress" which occurs at the time of the eruption of the deciduous teeth; he believes that irregularities are seldom inherited but depend rather upon the order of eruption, but from whatever the cause of deformities or arrest of development of the jaws, there is more or less nasal stenosis with the various deformities of the bones of the nose.

Black believes that septal operations are not always effective, due to the fact that the main factor in the etiology of the deflection (the dental irregularity) is overlooked or uncorrected, and remains with a lessened resistance to the deformed part and is likely to bring about a return due to the backward pressure upon the septum.

Dean estimates that 70 per cent. of children are more or less mouth breathers.

This does not mean they do not breathe normally through the nose, but that some do have normal nasal respiration, and are only mouth breathers when in the recumbent position which allows the blood to flow into the soft cavernous tissues of the nose and induces an intumescent obstruction; this in itself predisposes to inflammation which readily spreads to the Eustachian tube, which after exposure to cold or wet may end in a suppuration of the middle ear.

Bryant in his address as chairman of the section on laryngology and otology of the A. M. A. makes note of this fact in his discussion of preventable deafness.

The decreased air pressure in the nose and naso-pharynx in mouth breathing not only favors venous stasis of the turbinates and nasal mucosa, but interferes with the proper ventilation of the middle ear and its attendant serious consequences.

Another bad feature of mouth breathing is the admission of countless bacteria to the lungs, an important item to consider in our crusade against tuberculosis.

In nasal breathing the air is filtered, the particles adhering to moist mucous membrane of the turbinates; it is also warmed and moistened.

Air passing into the lungs without being warmed and moistened causes a drying of the walls of the air cells which interferes with the proper exchanges of gases, so that the oxidation of the entire body is greatly interfered with, making the child dull and stupid and at the same time nervous and irritable, due to defective metabolism resulting from this abnormal breathing.

The reflex disturbances due to mouth breathing cannot be considered in this brief paper.

This subject should be of more than ordinary interest, if for no other than cosmetic reasons, as mouth breathing is always followed or is accompanied by a faulty development of the face with malocclusion of the teeth.

Every young child should be carefully watched for mouth breathing, and if improper breathing is constant he should at once be examined for adenoids and tonsilar hypertrophies which should be removed if found present, as they not only interfere with proper breathing and the host of attendant disorders, but affect the general health of the individual to an extent which alone would urge their removal; then too, about 6 per cent. or 7 per cent. are tubercular.

After this has been done if there is any jaw deformity the child should be referred to an orthodontist and after his work has been completed should be sent back to the specialist for the removal of any nasal hypertrophies, spurs, etc.

In this class of cases it is very necessary that the dentist and the physician work in harmony and a thorough understanding of this subject by both is essential to give the patient the best of treatment.

## THE RELATION OF PROFESSIONAL DENTISTRY TO THE COMMERCE OF DENTISTRY

BY T. LEDYARD SMITH, D.D.S., NEW YORK

The perception that the interests of the dentist and those of the dental manufacturer and dealer are closely allied is spreading. Each is seen to be necessary to the other. The manufacturer avails himself constantly of the advice and services of the trained dentist. His perfected product makes new professional conquests possible to many dentists.

The manufacturer studies extensively along the lines of his specialty. He accumulates all available knowledge and perhaps adds more. If he be up to date he passes this knowledge along in his advertising, in such form that all may avail themselves of it. Frequently the sum of such knowledge is greater than can be obtained from any other source. It may be immensely helpful to many.

Dr. Smith shows, in this paper, the close relations which must subsist between the dentist and those employed in what he terms "Commercial Dentistry"—the inventor, maker and seller of dental materials and appliances.

May this article open our minds to the perception of the unity of these interests and to the reception of knowledge and benefits from these sources.—Editor.

The effort to care for the human teeth, to maintain or attempt harmony and balance, developed a profession. Naturally, by its side there grew a commerce.

The etiology, the why, of human dental degeneration, is not the theme of this paper. We are taking the fact that disorders of the mouth and teeth exist and are increasing, which fact has brought to life dentistry; which in turn, by its very needs, gives cause for commercial dentistry—meaning the inventor, manufacturer, retailer and all their aids.

Persons can and do go through life without any help or care from dentists; but, no dentist can practise without the products of the man of dental commerce. Dentistry, as practised professionally, could not exist one day without this necessary other side—commercial dentistry.

Because this statement has been so vigorously contradicted and because of the very vital relationship between professional dentistry, as practised by one class of men, and commercial dentistry, as carried on by another class—no better, no worse, nor different—the question is worthy enough and because of one's interest in the one side or the other, it behoves us to look it over in this relationship.

Dividing the population of the entire country by the number of dentists in practice gives figures that will prove that a large number of persons go along through life without dental services. But there is no dentist in this or any other country, located or traveling, who can begin

and carry on his practice without the aid of that commerce, that professional dentistry has brought to life.

The first efforts of a dentist after having become one are devoted to business—locating and furnishing an office. His next move is another purely business transaction with the trade houses, in the purchase of chair, fixtures, instruments, etc. Without those products of commercial dentistry, he could not open office. Nor is he capable, qualified or justified in law in making an examination of a mouth without this equipment. A denial of this is the childish quibble of words by men who have arrived at that age where they live in the past. And even in that past age they had a chair, a mouth mirror and a hundred things that if not bought, they made themselves from products of commerce, proving that the dentist of a half century or more ago was just as dependent on the output of the trade as a dentist of to-day, with this splendid difference from the present day professional man, that the dentist of this day is more fortunate in having brought to his notice and his door every thing that inventive mind can produce.

Impossible as it is to entertain one's first patient without this trade equipment, just as impossible would it be for a dentist to-day to attempt the personal up-keep of his equipment in the smallest degree. Meaning, that it is an impossibility for any dentist to individually make or manufacture (and be in active practise at his chair) any one of the countless necessities now put out by the trade.

It seems almost silly for a writer to point out what is so apparent, but, the excuse is, that these statements of the writer have been openly denied.

Assuming then, that these statements are correct, it becomes fortunate for the public that it is so. Agreeing that there are about thirtyfive thousand dentists in the country, there would be without the aid of the trade, thirty-five thousand dentists attempting the manufacture of cements, we will say. Thirty-five thousand attempts at "local anesthetics," and so on, were it possible. Imagine the result on the public of such individual unscientific quackery, as compared with the results of an article of the latter description for instance, whose pamphlet has just come in by mail, and which shows that numberless cases—teeth, eyes and all parts of the body-have been scientifically, uniformly, and painlessly treated, with a product put up with all the care and thought of men devoted to that one article alone. As if dentists, each one acting for himself, could produce such a safe, uniform article, as this one for instance, which is also used by surgeons privately and in hospitals. If the trade you are supporting, willy-nilly, as a necessary adjunct to your daily chair practice, has done only that one thing and nothing else, then

if you are true in what you say in regard to serving humanity, off with your hat to that one trade product. And that's only one article.

A Pittsburg house sends out a catalogue of 800 pages. A Philadelphia house could do the same. A New York City directory shows thirty manufacturing establishments in New York alone. An English concern is reported as being capitalized for five million dollars. This showing will give at least an idea as to the size in any way one wishes to look at it and the importance of commercial dentistry.

If the public, that dear public we love so well to serve, could be asked to express any gratitude for the immeasurable benefits bestowed by dentistry, their thanks would go to the professional side—that side which renders the direct service. That there is an adjunct, an indispensable aid, a trade side, only a few of the public realize, and the full measure, were it given by this few, would be only a small per cent. of the vast magnitude and vaster importance of that trade side of the field surrounding dentistry. It seems impossible in these days of progress to have it asked "do you make your own teeth?" when plants have fortunes invested in platinum alone. Nor may the public be blamed for their ignorance in asking that common question or any other, when their natural teachers, their dentists, have either no idea of the magnitude and importance of this commerce, or else are too stubbornly short-sighted to see its connection with their very own profit, realize it, uphold and teach it.

It is a dentist's personal loss if he fails to realize how close and dependent he stands to the trade side that makes it possible for him to keep open his office.

His very post-graduate education demands not alone his recognition of this fact, but his application of the idea and his greediness to make use of the ever increasing amount of knowledge pertaining to his calling that comes to him free, daily, through the mail as advertising matter.

Commercial dentistry is to-day carrying on a post-graduate course in up-to-date dentistry that is persistent, forceful, rich, healthy and a benefit not only to the dentist, but to humanity in an immeasurable degree.

The products of invention, put in trade and commercially sold, find their way through the medium of dentists to humanity even yet unborn, for mothers are reaping the benefits of science and invention that is to carry for their children a better condition than were there no trade products to help the dentist in his practice.

The idealist sees in the future—how near or far—ideal occlusion, perfection of contact, health maintaining surfaces, a perfect balance in all fluids and—immunity from everything short of standard normality.

The observer sees the very reverse of all this and what is alarming, a multiple of causes that influence degeneration and bring conditions that baffle science and demand the highest skill to meet. To help meet and lend aid against this growing demand on the professional side of dentistry, the inventor, the manufacturer and the trader stand as the very support of the dentist; and through the dentist as a means of reaching the people, their many trade products bring untold benefits to humanity.

Wipe out the millions invested in trade dentistry, and divert into other pursuits the thousands of men now engaged in, and connected with, the trade, still leaving the professional men, and humanity would be afflicted with a terrible loss and professional dentistry would be flat.

The best way to appreciate a dentist's dependence on the trade is to imagine practising dentistry without that aid: not a little, but completely so.

Aside from the direct advantages to be gained by the dentists through the persistent care given to his office material needs by the commercial man, a mass of new dental education is likewise forced on him. No other one source can compete with commercial dentistry in spreading dental education. Its foundation is money. This fact gives it a support that has no boundary nor limit. That fact keeps from it any sentiment that could only have a narrowing influence. The power, therefore, of this trade side of dentistry with its trade journals and other literature is not only aggressive through competition, but healthfully progressive. And its field is not confined to a few socially associated men here and there, but is spread by mail, by advertising or other means to every spot on the globe where there is at least one dentist, if no more. Any suffering person near that one isolated dentist who may be in some far off corner may feel grateful and rightfully so for his services, but, in a large measure, he is a dispensing agent, standing practically and necessarily between the commercial output and the ills and needs of humanity.

The college professor may free his feelings with a sigh of gratification in graduating his class: but those graduates have then only begun their education. Much more will they gain by that hard teacher—experience, and much more again will they have forced on them by the trade house; but unlike their college, this trade house will never graduate them. This trade house will stick to them and will keep them abreast of the times in every new invention, every material aid, every theory and advancement in science and practice.

Their "trade journals" alone have ever been a forceful, persistent, educating factor in post-graduate education.

The demand for these journals is best shown by their subscription lists. The demand for society membership is shown by the society registered membership of any locality. A comparison is sufficient.

A recent dental meeting was attended by a thousand dentists, every one of whom came miles and was at some expense to see what may be new in practical dentistry: and the seventy clinics given, using trade house products, was the interest that drew those thousand men together: while less than two hundred stopped to hear papers by individuals.

It was the practical, the material, the latest products of the trade house that fired their interest and brought them together. Take this practical, evident, substantial factor out of these conventions and substitute idealism, theory and air, and then make a guess as to the attendance.

Disassociate professional dentistry without aid or touch from commercial dentistry and there would be left but a theory.

Editor THE DENTAL DIGEST.

August 12, 1909.

If I remember correctly, some few months ago in The Dental Digest an opportunity was given subscribers to ask questions to be answered in The Dental Digest. If I am not mistaken, kindly publish same with replies in as early an edition as possible and oblige,

Respectfully yours, O. ——, D.D.S.

(Name known to editors but withheld by them.)

No. 1. What is the most practical and successful method of forming the wax to the cavity in contoured and compound *cavities*, with the intention of casting?

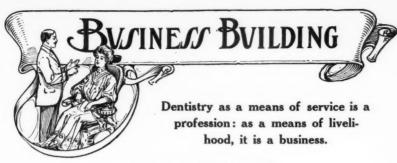
No. 2. What do the following titles to numerous dental papers indicate and why are they not followed by the essential D.D.S., *L.D.S.*, D.M.D., M.S., D.D.Se., M.D.S., and M.P.L.?

No. 3. I have understood that dentists are not eligible to membership in the Medical and Chirurgical Faculty of Maryland. If this is true is it not an injustice to the dentists of that state and a breach of professional ethics for the above society to include in its "Public Educational Articles" (unsigned) appearing in the Baltimore Sunday Sun for the past few months an article entitled "The Care of the Teeth."

No. 4. Is there any real harm done to the *normal* individual in eating at the same meal, so-called bad mixtures, combination or messes of foods, so long as they are clean, fresh and wholesome and he has an appetite for same, such as crabs, milk, tomatoes and ice cream, etc.?

I am aware that acids cause milk to curdle, but does not milk have to curdle in the stomach before it can be digested?

What are the views of physiologists? What does Fletcher say?



#### DENTAL SALESMANSHIP

H. W. BALLARD, DAVENPORT, IOWA

This article was written by a man whose position and experience peculiarly qualify him to speak with authority. His own unquestioned success in the selling line, his long and intimate experience with a large number of dentists and the success which he has made of other stores and lines in which he is financially interested, lend to these words the endorsement of success. The simple plan outlined here can be applied in every dental office and by every dentist of ordinary ability. A trial will cost nothing and may win much.—Editor.

A DENTIST should sell to his patients the kind of service he wishes to do for them, provided of course that it is for the patient's good. Ordinary business judgment indicates that he should sell these services at a profit.

Different dentists sell different kinds of service to advantage. For instance, some dentists rarely make dentures, while others rarely make bridges. It naturally follows that the dentist who rarely makes dentures, does not make them so well as he who makes many; while the dentist who rarely makes a bridge cannot make so good a bridge as he who makes them often. Yet both dentists continue to sell not only that which they do well, but also that which they do poorly.

Dr. A——, who is a poor plate maker, makes low prices for plates and by the force of competition keeps down the fees of Dr. B——, who is an excellent plate maker. Dr. B—— is a poor bridge-worker; he puts but little skill and labor into bridges and perhaps has no great amount of confidence in them. As a logical result he quotes low fees for bridgework and Dr. A——, who is a painstaking and successful bridge-worker, feels that he must quote the same low fees for bridges as his neighbor Dr. B——.

All this trouble comes about because the dentist rarely recognizes that he is necessarily a salesman, and does not govern his course by those principles which successfully govern selling in all lines. If Dr. A—— understood the principles of selling, he would know that his skill in bridge-work justified a higher price than he now gets; and that he could readily get it by using a little salesmanship; Dr. B—— would realize the same thing as regards dentures and would easily get, by the exercise of the same salesmanship, a higher price for dentures.

The mere fact that the dentist sells his patient the work he thinks indicated for the case, or that he likes best to do, shows the beginning of salesmanship. It cannot be that all who come to the dentist request a plate or a bridge, hence the dentist sells his work, and the kind he prefers.

As to the manner in which a dentist may obtain better fees for his chosen line, be it dentures, crown and bridge-work, etc., it may be interesting to study a method for selling tooth brushes in successful use in a drug store.

This store kept a good supply of tooth brushes. For a long time the highest price asked for a tooth brush was thirty-five cents. It was an excellent value.

With the highest price brush at thirty-five cents, the average price of the brushes sold was under twenty-five cents. This came about because not many patrons will take the highest price brush shown them, but drop back to a somewhat lower price.

Because of the low average price of the brushes sold, the tooth brush trade was not in satisfactory condition and the following plan was taken to improve it.

An assortment of brushes was purchased to retail at thirty-five, forty, forty-five, fifty, sixty, and seventy-five cents and one dollar each; the percentage of profit on each of these was on the same as on the cheaper brushes formerly sold. In each case the value was there. When a customer came in to see a tooth brush he was shown brushes at from sixty cents to one dollar. The customer would probably say, "I do not care to pay so much." Then one was shown at forty cents and nine times out of ten he would take the forty cent brush. Others wanting the best that might be had take the seventy-five cent to one dollar brush. Many customers who formerly had paid from twenty to twenty-five cents for a brush were induced to try forty to sixty cent brushes and shown the quality of the same as compared to others. They went away satisfied. Frequently they bought an even better brush next time. Many had it in mind when they entered the store to pay twenty-five cents but did not wish to buy the cheapest brush (for that was the cheapest shown), nor did they wish to appear cheap to the clerk, so they raised the limit they had in mind and bought forty and sixty cent brushes.

Also seeing the better brushes was an education to them. Between this feeling of pride and the new information given about better brushes, the salesman was able to lift the average selling price of brushes one hundred per cent., and the profits in like manner. Moreover, it actually made better friends for the store.

Try this yourself from the purchaser's side. Fix in your mind a price for some article you intend to buy. If the salesman who serves you is skilful, you will find that he will show you better goods and talk their advantages so convincingly that two things will happen in your mind: First, you will actually want the better goods because of their superior merit, and second, you will feel cheap in your own eyes if you take the cheapest goods shown you.

The processes in a patient's mind are parallel to those in your mind when the clerk waits on you. If you offer various kinds of service for a given case, as cement, amalgam, gold or porcelain fillings or inlays, you can carry your patient through the very same mental stages you went through about the purchase. By merely setting forth the advantages of the best services in their true light you can lead them from cheap services well up toward the best you can give at good fees.

The same is true as regards a choice between a denture and a bridge. By exhibiting a sample of each and using proper, truthful salesmanship, you can influence many people toward much higher priced pieces of work than they planned to take, greatly to your own profit.

Select the kind of work you choose to sell, become proficient in that; advance your price so that the minimum is about your maximum now, then sell it by showing the customer the value of the different kinds. Give value received. Talk quality all the time and give quality all the time and you will have very little trouble getting the price you wish and increasing your business in a given line seventy-five to one hundred per cent. It is worth trying.

### TREATMENT OF TEETH WHERE THERE IS A HYPER-SENSITIVENESS AT GUM MARGIN WITHOUT A CAVITY

First dry the tooth or teeth by wiping off with alcohol and then using hot air. Then take some of Dr. Cattell's Antipus and put on the sensitive part of the tooth at the gum margin, and with hot air drive the medicine into the tooth structure until there is no pain from the hot air. You need not apply the rubber dam.—R. J. Monette.

#### WHAT WOULD YOU DO IN THIS DENTIST'S PLACE?

The following letter has been received from a Dental Digest subscriber. It is published by permission, the signature being known but withheld by us. It is so real, so practical, and withal so pathetic that it should be carefully read by every dentist.—Editor.

#### Editor THE DENTAL DIGEST:

After having studied the "Business Building Articles" in The Dental Digest for several months, I am sending you the analysis of my practice as to cost and income and ask what you would do in my place.

Before submitting the figures, permit me to say that I practise in a town of between 2,000 and 3,000 people and have been here for five years. I purchased the practice which I now conduct and by the use of modern methods have considerably increased it, but believe that I have now gotten to nearly the limit of the community.

For ten years, including five years of my predecessor's occupation of the office, the practice has been conducted on a cash basis and I do not lose \$2.00 a year in bad bills. Unless I know that people are amply able to pay when the bill is presented at the end of the month, I get my pay when the work is finished and always make it a rule to hand a "good" patient a bill as he leaves the chair at the completion of the work. This usually brings the check within a few days.

My prices are considered the highest of those for some distance around and are as follows:

Cement fillings, from \$1.00 to \$1.50, depending upon the difficulty of the restoration.

Amalgam fillings, at a minimum fee of \$1.00 and running as high as \$2.50 in difficult restorations, as where the filling has to be cemented in.

Gold fillings, \$2.50 to \$6.00.

Cleaning, \$1.00 to \$5.00.

Plates, from \$12.00 for vulcanite plates up to \$75.00 for gold.

Bridge-work, \$6.00 a tooth, except where Richmond crowns are necessary, in which case I charge \$10.00 for each Richmond.

Porcelain crowns, \$5.00.

Treatments, \$2.00.

To show the character of practice, that is the amount of each kind of work done, I analyze here the showings for two years. One year which ran a trifle more than \$1,900.00 and one which ran a trifle less than \$2,000.00.

 $\Lambda$  careful study of my books shows the cost of conducting practice to be as follows:

#### INVESTMENT ACCOUNT.

College expenses	 	 \$1,310.00
Value of time in college	 	 1,000.00
Value of equipment as itemized below .	 	 882.00
		\$3,192.00

#### EQUIPMENT ACCOUNT.

#### (In Operating Room.)

Imperial Columbia	chai	r			٠							 		. \$	200.00
Double-bowl spittoor	n														65.00
Cabinet															160.00
Switchboard and ex	tras														100.00
Engine, foot												 			15.00
Instruments, over		,													100.00
Bracket and table		,													20.00
Electric light						*	. ,								5.00
														\$	665.00

#### (In Laboratory.)

Lathe	. \$	16.00
Benches, etc		20.00
Soldering outfit		15.00
Vulcanizer		10.00
Instruments		50.00
Small heater		6.00
	\$	117.00

#### (In Reception Room.)

Carpet, somewhat worn\$	10.00
Hard coal stove	45.00
Chairs	15.00
Table, hat-rack, pictures, etc	30.00

#### MONTHLY RUNNING EXPENSES.

Rent\$	10.00
'Phone	2.00
Electric light	2.00
Water bill	1.00
Girl	20.00

Carried	forward					,							\$	35.0	0

\$ 100.00

#### MONTHLY RUNNING EXPENSES.—Continued.

Brought forward	. \$	35.00
Express and mail		1.00
Washing, towels, etc		1.00
Supplies		20.00
Heat		1.67
	\$	58.67
SUMMARY.		
10 per cent. on investment	.\$	319.20
Annual running expenses, 12 months at \$58.67		704.04
	\$1	1,023,24

My practice increased steadily for three years, until it reached a maximum, in round numbers, of \$2,200.00 per year. At this point it seems to remain, and after a careful survey of the community and its possibilities I see room for slight increase, the maximum for which I hope being \$2,400.00.

By means of stringent economy, the office outfit is entirely paid for, and as I get cash for my work, I am able to pay my bills promptly. For three years we lived in a modest house at the edge of the town. There were lawns about the house and I found that the few hours I was able to spend outdoors during the week were of great benefit to my health. After our second child was born, however, it proved impossible to save any money with this manner of living, even though we lived most economically. This will be plain from the following table of living expenses which, however, is not so complete as those for the office, since there are many small house expenses which are difficult to tabulate:

#### MONTHLY LIVING EXPENSES

MUNITED LIVING PAPENSES.	
Rent\$	10.00
Light	2.00
'Phone	1.00
Fuel	3.00
Groceries	20.00
Provisions	10.00
Church and charity	2.50
Clothes	8.00
Life insurance	6.00
Dry goods	6.00
Pleasures	5.00
Miscellaneous	15.00
\$	88.50

#### SHMMARY

SUMMARY.	
Gross income	
Income available for living expenses	
Living expenses, 12 mos. at \$88.50	062.00
Sum available for saving\$	114.67

A little study of these figures will show that even under favorable conditions, when business was at its maximum, and no home disaster or misfortune had caused any unusual expense, there was available for saving, roughly speaking, the sum of \$2.20 a week.

In other words, with a college education, a profession in which I am conscientious and industrious, an investment of \$3,192.00 and what is regarded as a good practice in this neighborhood, I am working for \$2.20 a week more than the cost of conducting the business and maintaining the family.

Even this small saving would have been impossible but for the fact that we have no medical bills to pay. I got around these by doing dental work for the family physician, making no charge, and he makes no charge for medical service to us. Some years since the baby came, the medical bills, at regular rates, would have consumed all our savings.

After one year of such management a family council was held and in view of the extremely small savings, which were made possible only by the strictest economy, it was decided that we should reduce our living expenses so as to permit saving more money.

The only way possible was to move into a flat where we could live in the back rooms with the office in the front rooms, and thereby economize on rent. You will recognize that this was a foolish thing to do in view of longer hours, and greater confinement; but it was the only move possible. We could not live more plainly or economically at the table or in the matter of dress. We had already reached the maximum of economy consistent with comfort, in these lines.

The office was moved to the flat and we moved into the rest of it. The result is that we have reduced our running expenses in such way that we have now \$10.00 a week left over, by pursuing the same rigid economy as before, and by the fortune of having good health. If any serious illness overtakes my wife, myself or either of our children, the probability is that our capital would soon be exhausted.

It may seem to some that the item entitled "Pleasures" should find no place in a list of this sort, but the yearly expenses could not be complete without it. These expenses are very modest, much more so than we think we should be entitled to after the twenty years of industry which alone has provided for them. We can go to Indianapolis for \$1.00, or to Chicago for \$3.00, but we are never able to afford a hotel and must immediately look up a room in some part of the city where we can lodge at a reasonable price, and go to a restaurant where we can get our meals at a cost not exceeding twenty-five cents each.

The future does not look very bright to me, especially as our capital is not large enough at present for us to go to a city and locate and live

until I can get business enough to support us. I cannot hope to maintain my activities much over fifteen years longer, which will just take the children through high school, if all goes well. I feel that the present manner of living, that is in a flat, is not so well for me physically, as was the outdoor life at the other house, but I do not see how we can face old age without money in hand.

I should be very glad indeed if some members of the profession who can solve this difficulty would offer a solution which is practicable for one in my position.

(Name withheld by the editors.)

#### A REPLY TO A QUESTION

We are glad to have this letter, though the writer evidently mis-read the question to which he refers. Of course one cannot figure so much educational expense per dollar's worth of gold in a crown; or charge lost hours on that basis and get accurate results applicable to the whole practice. The writer's points are well taken and his letter may help some dentist who is just ripe for such a hint as this. Such letters are always welcome.—EDITOR.

#### Editor Dental Digest:

Replying to your question in the July (p. 538) number will say that adding \$3.00 for time value consumed in education, college expense, office expense and time consumed waiting for practice to the dollar's worth of gold in a molar crown as you say, it should cost net \$4.00. Six dollars more for two hours' services would make total cost \$10.00, therefore the dentist must charge \$10.00 to have a profit. He is entitled to any profit above this that his patient will give for a perfect fitting and well reinforced crown. Ill-fitting veneer crowns, with no root paralleling, are always done by competitors of the unscrupulous class for less money. You place cost of gold far too low and I contend that two dollars' worth of gold goes into every crown I make and often more in heavily reinforced ones.

My minimum charge is \$10.00 for such crowns and more when my patient is able and appreciative enough to pay it.

Such charges are, of course, country prices in towns of 5,000 like this. To-day I have removed a gold crown that weighs exactly 18 grains; it has one corner and a quarter of collar worn away from ten years' service. This crown originally weighed about one pennyweight and is lightly reinforced with 18 carat solder; therefore was originally worth about \$1.00, but it was too light to stand the necessary wear. The root is considerably softened, so much so that I have built up the entire lingual side with alloy before I can adjust another crown over it.

A dollar's worth of gold in a molar crown will usually wear four or five years and in favorable cases very much longer, but an experience of twenty-two years has taught me that if a dentist expects lasting crowns he had better add more weight to the collar and reinforce the cusps heavier than a dollar's worth of gold will do, or he may expect 60 per cent. of failures in from two to five years.

I know there are men who claim they can make and adjust a crown in 30 minutes and the Lord only knows how many such hurriedly made and adjusted so-called crowns with shoulders prominent enough to lodge a No. 2 shot are made. I see lots of them and the roots are often decayed beyond redemption. It's a sad state whenever a dentist is choked off of a bare living by being compelled to crown a molar tooth for less than \$10.00 in order to meet the average competition. It generally takes me two hours to fit, make and properly adjust a gold crown and I am not a slow operator. Dentists who do such work in much less time and for less money usually are incompetents, new graduates or unscrupulous, and such crowns are dear in the end.

Very truly,

Aug. 16, 1909.

(Signed) H. L. HARLAN, Boonville, Mo.

August 16, 1909.

Editor Dental Digest:

Dear Sirs: This may interest some of your readers: I began practice in 1878 under very favorable circumstances, as my father's assistant.

I naturally adopted his business (I should say unbusiness-like) methods and rendered bills once or twice a year.

At the end of thirteen years I had over eight thousand dollars (\$8,000.00) of bad accounts on my books.

I then began to "take notice."

I concluded to change my tactics.

My professional friends said I would ruin my practice.

On January 1, 1891, I enclosed the following card with a bill to every account opened in my books. No exception.

From and after this date my practice will be conducted upon BUSI-NESS PRINCIPLES, which require monthly settlements of all accounts.

Nearly twenty years have passed since then and I have never had cause to regret getting down to "BUSINESS PRINCIPLES."

Very respectfully,

(Signed) C. Edmund Kells, Jr., New Orleans, La.

#### AN INTERESTING COMPARISON OF FEES

#### BY THE EDITOR

I have been tremendously impressed with the difference in fees between dentists and men in other specialties of medicine in the town where I live, near New York. And if I live to see the day when dentists of equal skill get equal fees, I shall be glad indeed.

It recently became necessary to have the tonsils in my little boy's throat removed and a specialist was engaged to do it. He is a man of known skill, but standing no higher in his line than thousands of dentists do in our line.

It was his vacation week and he indicated his willingness to come to the home on a certain afternoon and perform the operation, stating that for one in an allied profession the charge would be very small. He brought along his own anesthetist in whom he had great confidence. This anesthetist's fee is \$25.00 but also out of consideration for one engaged in dentistry his fee was to be small, \$15.00 in this case.

An automobile was provided for them and after a pleasant ride of an hour they entered the house. Things were in readiness for them. A dentist in whom I have great confidence gave the boy somnoform because I believe in it, and the anesthetist who came from the city then gave a beautiful exhibition of immature judgment and bungling in the use of his general anesthetic, following the somnoform, which was wholly unnecessary. In less than a minute both tonsils were out and in a few minutes more both gentlemen were ready to leave. They were in their offices in another hour. The bill for removing the tonsils was \$35.00.

The fees common to both of these men would have totaled \$75.00. It was worth that much, many times over to the boy.

Why cannot dentists get fees that come within hailing distance of these? This work is no more difficult, requires no greater skill, tasks the energies not one whit more than many a piece of dental work. Yet there are thousands of capable dentists who do not average net earnings of that much in a week. Of the \$50.00 actually paid, over \$40.00 was net profit. It did not cost them a cent from the time they left their doors till they entered them again, and office maintenance for the afternoon was not \$10.00.

I do not complain at the fees. I want dentists everywhere to awake to the fact that we are being outstripped in business sense by the allied professions. Let us get decent fees, not exorbitant or unreasonable, not "gouging" anyone. But let us get more than practice costs, by a tidy sum, annually.

Then we can have vacations, travel and luxuries now, and comforts in our old age.



Brother Bill is a dentist who has succeeded professionally and financially. He is interested in the financial uplift of his professional brethren and writes many letters to friends in the profession who seek his counsel.

(Harry meets the competition of lower prices and Bill writes of a similar experience and how he won out)

My Dear Harry: Your letter saying that you are feeling the competition of lower prices stirs in my mind many an old recollection of former days. You say that a new dentist has moved into the vicinity, that he is advertising low fees, and that he has cut the life out of prices. Lordy! how that brings back some unhappy hours I went through during my first year out of college. That year is long gone by, but one lesson that I learned during it has been invaluable to me; and it had to do with cut prices. I sweat blood while I was learning, but it came out all right in the end. Maybe I can help you by telling about it.

I intended going to N—— when I got my diploma, because I knew a good many people about the town, but a friend pointed out that there were enough dentists there and that as I had no money I'd better go to some small place where I could get business immediately. So I went to S——, because there was but one dentist there and he was a boozer. Besides, he'd never been to college. He'd learned dentistry by working at it. With the training I'd had it looked like I ought to be able to beat that combination of booze and partial knowledge, so I opened up there.

That story about the booze wasn't any fable and I got business right from the start. At the end of my first month I was \$160 ahead, and visions of a grand success floated before my eyes. Things ran along this way for about three months.

All of a sudden something happened. Business got slower and slower until it practically stopped. After a while I found out the cause. My competitor was cutting prices and getting all the business, while I sat and waited for patients who rarely came. My price for an amalgam filling was \$1.00; his was fifty cents to begin with, but if he couldn't get that, the price dropped to forty cents and in some cases to twenty-five cents. He didn't want the patient to go out of his office and come to mine. Also he trusted anybody for any length of time.

In the heyday of prosperity I had married and now the little woman

in the tiny house at the edge of the town had a pretty hard job to make ends meet. I'd already educated the grocer and butcher into giving me credit, so they didn't suspect anything wrong. But one month my earnings were only \$11.00 and that's mighty slim for two young, hungry people. For some days I went about town with just 12 cents in my pocket and no money in the bank. But I didn't drop my prices.

Some instinct told me that cutting prices was the wrong course to follow, because it's so much easier to cut prices that to put them up again. And I knew that in order to make a living I had to have a profit. Whenever anyone came in to price work, I gave them as much information about their mouth as I could. I tried to make them see the need and possibilities of their case just as I saw it. I gave them a fair price and explained that it couldn't be done well for less. I did my best to sell the work at my price and on my terms.

A good many people came in and for a while about all of them went out without giving me any business. C——, the other dentist, was as sober as a judge now and fighting for his livelihood. We were outwardly friendly and on occasion borrowed back and forth. But he was backed against a wall, with a booze record, and he proposed to win by starving me out.

Just to show you how keen the fight got, let me tell the story of one patient, T-, a real friend of mine. T- needed a bridge put in, and some large fillings in his anterior teeth. I knew what he ought to have and explained it all to him. Then C- would get hold of him and quote a low price for gold crowns on the front teeth instead of the necessary mesial and distal fillings. C- had the crowns made for \$1.25 each at a laboratory. The teeth required big gold contours which C- couldn't build. The fact was that C- was offering very bad dentistry that my conscience wouldn't let me do and I was offering high grade work that C--- couldn't do. T-- was as close as the bark on a hickory tree and hated to pay more than he had to. He would come and tell me C---'s price and ask me to meet it, promising me the work on even terms or a shade better. But I wouldn't change. I knew that if I did C---'s kind of dentistry or met his prices I was virtually beaten, even if I got all kinds of work. And C--'s prices didn't leave any profit on good work.

Finally, one cold winter day T—— came in to visit and I think to give me his work. C——, who had evidently been watching from his window, came in, ostensibly to borrow some gold. Seeing T—— he sat down and visited until T—— went out, and went out with him. Just outside the door he quoted T—— \$3.00 a tooth for the crowns and bridgework and got the case. When C—— got through with that mouth,

it was nearly a continuous row of full gold crowns. I was mighty glad I wasn't gold'y.

Every once in a while I got a case, and it goes without saying that I did my level best with each, not forgetting to educate each patient as I went along. Finally, things began to change. I'd lost all the liquor people and their friends because I'd taken an open stand against booze in all forms; and I'd lost all the cheap skates of every sort. But there began to come in from the town and the country round some of the best people thereabouts. They took the best I could offer and with a little teaching they paid my prices. In the end I had a nice line of mighty fine people. I got all my debts paid and a little money in the bank, and when I got a chance to move to a better town, I was in shape to do it.

Tough as this experience was, it took out of me the fear of cut prices unless the other fellow is a better dentist or a better business man than I. Then, of course, he'd get me. But so long as he merely cuts prices and doesn't raise the quality, I have no fear but that I can beat him.

You need have little fear of a competitor's prices unless he is a better dentist or a better salesman than you are. Educate patients to see the possibilities of their cases, just as you see them. Talk them into appreciation of, and desire for, the best work possible for their case, and back up your work with prices that leave you a good margin over all expense. Make your selling ability save your prices.

Make sure that every piece of your work is well done.

Never let a cavity get away from you half prepared. See that it is clean and properly shaped, and that the filling, of whatever material it be, is put in to the best of your ability. Use especial pains with every piece of prosthetic work and make sure that it is *right* before it goes out.

Keep up the educational work, patiently and repeatedly. Don't hesitate to tell a patient the same thing a number of times; you'll only drive it deeper. But be sure you tell the truth each time.

Never drop your prices to meet price competition. That is sure to invite defeat. It is a two-edged weapon, because cheap work must of necessity be poor work; and poorly done work is the one thing which you need to fear. With your excellent moral character and pleasant manner, you need fear nothing but a piece of poorly done work of your own. That is a boomerang every time, and it will surely come back to knock your professional head off.

If you work your end right, this very competition can be made to so tie your patients to you that nothing but some fault of yours will ever get them away. Good dentistry and good salesmanship make a combination no price-cutter can beat.

There is a very large class of people who are repelled rather than

attracted by cheap prices. You're one of that class yourself. The last time I was at your home I needed some shoes and you took me down town to help me buy them. We passed a good looking store with a tasty window display. I started to go in. You said, "Don't go in there; their prices are low but their shoes are very inferior. I'll show you a better store." And you took me to where I paid twice as much for shoes that looked like some I saw in the first window. As we came out with the shoes you said, "That's a good deal more than you'd have paid down the street, but you'll find the shoes cheaper in the end." It was true. I never bought better shoes or cheaper ones in the long run.

If you'll apply what you told me about shoes to dentistry and tell it to every patient you serve, you'll solve the way to fight price competition, and no price-cutter will ever get your business. People in general don't know anything about dentistry—that's the secret of all the trouble. They don't know what they ought to have or good dentistry from poor. It's the blindest buying they do. And you and I, with our fellow practitioners, are to blame for their ignorance. We're the only ones who can teach them and most of us don't do it. If we'd spend on our patients as much time as is annually spent over discussing "Is Pyorrhoea Systemic or Local," we'd have them so trained that no cheap priced man could get to talk to them. I know, because I've got patients now, that no dentist could do cheap work for if he would do it for nothing and would pay for their time.

Never forget that many people judge the value of a thing by its price. A high price means to them a high value; a low price indicates a low value. And they aren't so far wrong, provided the dentist who serves them is square. A clean office, aseptic linen, sterile instruments and fine, conscientious technic cost the dentist who offers them a lot of money. The patient soon learns to appreciate them and would rather pay for them than pay a smaller fee and go without them.

As an instance of paying for convenience, take so humble a thing as vaseline. A few years ago we paid five cents for a glass bottle. Now most of us are willing to pay ten cents for a tube holding probably half as much. And the tube is so much cleaner and more convenient, that we pay four times as much for it.

I am writing this on the train, and the newsboy just offered some pretty picture postals of the steamer we recently left, all stamped and ready for mailing. I'm always looking for little hints of service and I asked him how many more he sold since he offered them all stamped. Said he, "I used to have hard work to sell 15 at 2 for 5 cents. Now I stamp up a hundred (with one-cent stamps) and sell them in no time at 5 cents each." There's your key—better service at a good fee.

Remember also that a good many people now-a-days are seeking the best in every line, and are willing to pay the price. There's a distinction in being the highest priced dentist in town that draws a good many good payers. These people never go near a man whose fees are low. They assume that low fees mean a low quality of service and they are very often right.

Don't let the price-cutter scare you. If he does good work it will cost him just as much as it does you, and if he does poor work it'll kill him with the better class of people. If his prices are too low to show a

profit, he'll quit after a while.

Meet his low prices with high quality and good salesmanship, the best of both in town. And quietly and modestly teach your patients the difference between good dentistry and poor. That fellow may take away your cheap patients. Let them go, and put higher class ones in their place.

Keep your nerve. If you play your game right you'll get him on the run. And you'll improve your practice at the same time.



## WHAT SUBSCRIPTION MONEY PAYS FOR

The subscription price for The Dental Digest is 8 1-3 cents per number. This sum pays for the white paper, the postage at second class rates and leaves a little over a cent toward the production cost. Each number as you receive it, costs approximately twenty cents, and this cost is possible only by running several thousand copies.

Considerably more than half the cost of the magazine therefore is paid by the advertisers who describe their offerings in the pages pro-

vided for that purpose.

The publishers invite your attention to the advertising pages in The Dental Digest. If the magazine interests or helps you, it is possible only by the support which the advertisers give. Look their pages over with interest and attention. If you send for literature or make purchases, mention The Dental Digest. They will then feel justified in continued and increased support and a still better magazine will be possible. Mention The Dental Digest.



BY RUSSELL W. BUNTING, D.D.Sc., ANN ARBOR, MICH.

A REVIEW OF TOOTH-FILLING MATERIALS-CEMENT

. With these qualities in mind, let us then make a review of the materials which are commonly used in the filling of teeth, for the purpose of comparison. Beginning with cements, we have to deal with two general classes—the oxyphosphates and the oxychlorides of zinc. Neither of these has been manufactured in a form that is perfectly in soluble in the fluids of the mouth or that is resistant to the wear of mastication, therefore, a permanent and perfect contour on a cement filling is impossible. It is in this respect that so many of our cement fillings fail and make them the most liable of all kinds of fillings to permit recurrent caries. For instance, in approximal cavities of the molars and bicus pids, even though the contour be completely restored and the adaptation perfect, yet in a comparatively short time the filling becomes roughened on its exterior, allowing food to be wedged in between it and the neighboring tooth, very often causing caries to be inaugurated in the neighbor. Then at the cervical border, the acid reaction of the fermented foodstuffs which are retained, and the acidity of the gingiva, cause a solution of the filling at that point, often resulting in a deep-seated recurrent caries before the damage has become apparent. The cements possess a certain amount of adhesiveness when applied to the walls of a tooth, but it has been noticed that this is lost with age or in the presence of moisture. The ordinary cements give up acids on the application of moisture to them, so that in many large cavities filled with cement we find, upon their removal, that a large portion of the floor has become softened to a considerable extent, without any discoloration, the decalcification being due to the free phosphoric acid liberated from the filling. Many cements shrink and consequently leak very badly. As to the antiseptic value of cements, Dr. Miller says that the oxychloride is active when fresh but in time loses its value, while the oxyphosphate is entirely without restraining influence.

# GUTTA-PERCHA

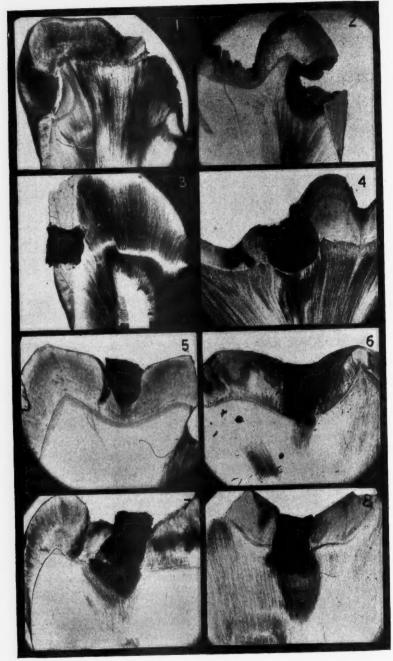
Gutta-percha as a filling material presents the characteristics of being insoluble in the fluids of the mouth, but is not resistant to the wear of mastication, or even of the tooth-brush or toothpick. For this reason, it is unsuitable for the restoration of contour, except, perhaps, on the lateral surfaces of a tooth where there is little wear. When properly inserted, gutta-percha has a variable amount of adhesion to the walls of the cavity. As to whether or not this adhesion is uniform enough to make a perfectly water-tight filling and exclude the microorganisms of the mouth is as yet an open question.

#### AMALGAMS

Amalgams are usually insoluble and resistant to the wear of mastication—there are a few, such as copper-amalgams, which will not withstand many years of wear, but with that small exception they are suitable for maintaining any contour. When properly inserted, they may be perfectly adapted to the walls of the cavity, and when fresh probably form a perfectly water-tight filling. However, all amalgams do not remain in the form in which they are first inserted-some will shrink, others will expand, and in either case the close adaptation of the filling to the wall of the cavity is likely to be disturbed, affording a means of access for fluids and bacteria. This shifting of the mass of the filling material is variable, and it is likely that our newer alloys, when properly mixed and inserted, have but little change in form. In the ordinary alloys commonly used there is little or no oxidization of their surface, therefore there is no antibacterial influence, but in the copperamalgams there is a strong antiseptic action, which makes it the greatest preservative which we have for badly decayed teeth.

# GOLD

Gold in all its forms is insoluble and resistant to ordinary wear—can be used to form permanent contours and, if carefully inserted, is capable of being perfectly adapted to the walls of the cavity, making a water-tight filling. However, it is in the lack of care in the insertion of gold fillings, especially in the adaptation to the walls of the cavity, that many of them fail. Many others fail from the weakening or checking of a frail enamel wall in the malleting of the gold against it. Dr. Miller has shown that unannealed gold is antiseptic, while gold which has been



Figs. 1, 2, 3, 4, 5, 6, 7 and 8

annealed is not—he says, however, that there is no reason to believe that the practice of placing of unannealed gold in the bottom of cavities has any appreciable value in this regard.

#### TIN

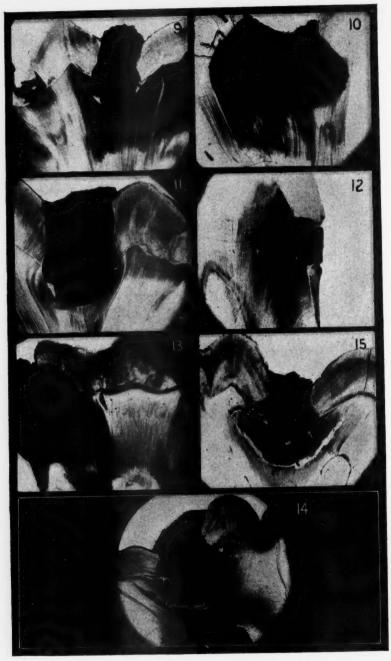
Tin is insoluble, but not very resistant to wear—it can easily be adapted to the walls of a cavity, but is of no use in building out of contours. It is not thought that tin has any antiseptic value, but it is noticed that the dentine beneath tin fillings is usually very hard and free from decay—it is likely that tin has the property of producing sclerotic changes in living dentine beneath itself. In this respect, tin is one of the best tooth preservatives which we have.

Two combinations of tin and gold are used—one in which the two metals are inserted in a combined form, which, after their insertion, seem to form a sort of amalgamation, and produce a filling which answers all the requirements of a good stopping and a great preservative—the other method is that of filling all the inaccessible portions of the cavity with tin, and building out the contour and portions exposed to wear with gold. In this last method we have the beneficial action of the tin, together with the ease of manipulation in the part of the cavity which is most likely to recurrent caries, and the tin is then protected by the gold.

#### INLAYS

The inlay principle, or the cemented filling in its various phases, makes use of the good qualities of the cement filling—namely, its adhesiveness and adaptability—and covers up its weak points by protecting it from the solutions of the mouth and from the wear of mastication. It is commonly recognized, clinically, that fillings of this class, when properly inserted, rarely have earies re-occur about or under them. Just what the exact nature of the protective principle is does not seem apparent, but the fact that the protected cement filling is a great preservative of teeth cannot be gainsaid—for example, we have all seen abominably made and poorly-fitted gold crowns, showing every indication of being slovenly pieces of work, which have been in the mouth for ten years or longer, and when we remove them for any reason we often find that the roots beneath, which, previous to the setting, had been decayed, have suffered no further extension of the caries, although the original cavities have been but incompletely exeavated. . . .

In Fig. 1 we have the appearance of a so-called "White Spot" of



Figs. 9, 10, 11, 12, 13, 14 and 15

caries at the approximal point of contact of a molar. In this area there was no outward apparent lesion, none of the enamel being lost, and yet the carious process has extended to the dentine and a considerable distance into it. . . .

In Fig. 2 we have what might be called a later stage of Fig. 1. In this the enamel has completely broken down to the dentine, forming a definite cavity. The enamel borders are seen to be dark, showing evidences of decalcification. . . .

Fig. 3 presents a cavity of this class which has been filled with gold. The enamel and dentine on the borders of the cavity have been preserved in good condition. . . .

Fig. 4 is of a small occlusal cavity in a molar which has been filled with amalgam, extending through the enamel and a short distance into the dentine. . . .

Fig. 5 is a type, in which the filling did not reach the dentine. In this it will be seen that there is marked decalcification of the border in two places. . . .

Figs. 6 and 7 are of amalgam in occlusal cavities which extend to the enamel-dentine junction, and have not been carried farther into the solid dentine. Fig. 6 has almost a perfect enamel border about the filling, except at the base where there is a small decalcification extending some distance into the dentine. It is possible that this is a primary caries and would not have extended any further than it now does. In Fig. 7 there is more decalcification of the enamel without any apparent ingress from the exterior.

Fig. 8 is of another small fissure cavity filled with amalgam. In this case the filling is extended to the dentine and a considerable amount of decalcified dentine is noticed beneath it. . . .

In Fig. 9 we have another amalgam filling of the same class as Fig. 8, but the carious process below is much more marked and extensive.

Fig. 10 contains a larger filling in an occlusal molar cavity—amalgam above and cement below—and although the cavity preparation is obviously poor, the filling has arrested the caries. . . .

In Fig. 11 we have a cavity of the same class as Fig. 10, but which has been much more carefully prepared. The filling is of amalgam in the upper half and gutta-percha in the lower. . . .

A very poor cavity preparation and incomplete adaptation of the filling material is seen in Fig. 12, in which we have an amalgam filling in an approximal cavity of an incisor. There is a marked decalcification of one enamel border and a crevice between it and the filling. . . .

A larger filling of this same class is seen in Fig. 13. In this case we have an exceedingly poor cavity preparation, in that a large portion of the enamel wall on the occlusal rests directly upon the filling, and for this reason a portion of it has broken away. . . .

Figs. 14 and 15 are of two cases very much alike, small occlusal amalgam fillings in molars, in each of which there are unmistakable signs of secondary caries beneath the fillings. . . .

#### DISCUSSION

Dr. C. J. Lyons, Jackson: In my judgment, faulty eavity preparation is more responsible for recurrent earies than the filling material itself. If you have followed earefully the pictures on the screen, you will find that a large majority of the eavities have been prepared very carelessly and that the fillings show that they have been inserted carelessly. I wish to compliment the essayist on the fact that he has shown us the necessity for careful cavity preparation; it shows the necessity for "extension for prevention;" that we must follow out all the fissures to the very end. Several of these plates have shown us that recurrent earies has taken place just in the fissures where they were not followed out thoroughly. It shows that we must cut out all of the overhanging walls and enlarge the cavity so that we can remove all of the primary decay from the vulnerable point at the dento-enamel junction. In many of these cases that have just been shown, all of the primary decay has not been removed, and it has gone on and undermined the filling.

The essavist gives as one reason for recurrent caries the lack of contour and final finish. Now I grant, whether your filling material is gold, amalgam, cement or gutta percha, if you do not restore the normal contour of that tooth and place that filling in as polished a condition as the normal, it is sure, sooner or later, that recurrent caries is going to take place, because if the filling is left roughened it leaves a chance for food deposits to lodge and a breeding place for bacteria. I do not think, under ordinary conditions, we can make a fair comparison between gold and amalgam as a filling material, because we do not use the same precautions in inserting these materials. I do not think there is a man here in this room that uses the same precaution in his cavity preparation, in his contour, and in his final finishing with his amalgams that he does with gold. I think in some mouths and in some teeth, it is doubtful if gold or amalgam either will make an absolutely tight filling, but I do believe that the cemented fillings or inlays will accomplish this. I think that the protected cement filling is the greatest tooth preserver that we have. That leads me to think that the protected cement fillings, or the inlays, are the best tooth preservers that we have. I think one of the reasons that the inlay is such a good tooth preserver is the fact that we always aim to get normal contour and surface finish. We have to have a surface finish in the porcelain inlays especially.

Dr. M. L. Ward, Ann Arbor: From the work Dr. Bunting has done he has shown us pretty conclusively that the antiseptic properties of filling materials have very little to do with this recurrent caries for this reason, that the ones which have the most caries are alloys, though he does not show that they are copper alloys. The ones having fewest caries are made from soft foil, and from tin. Now, it looks to me like this: that the ones with the greatest amount of caries are the ones from the material which we know we cannot handle successfully in hardly any case. We simply cannot handle alloy and make a filling which will not stand nor leak like we can with any of the other filling materials; we cannot handle it and make a filling which is anything like as tight as one from soft gold foil, tin foil or

cement. As to the antiseptic properties of the alloys: It has been proven, beyond any doubt, that the green basic carbonate which forms upon copper alloy is decidedly antiseptic and that it forms itself in the presence of moisture and very little heat. Further than the copper alloys, there is little or no antiseptic properties from them. Anything containing as high as eight or ten per cent. copper which turns black enough or green enough, forming enough oxide and basic carbonate becomes antiseptic.

There is one thing which Dr. Bunting spoke of which I have been unable to figure out, and that was why cement fillings should not be good preventives to recurrent caries. I do believe that the cement filling protects absolutely the tooth from caries until it begins to decompose. We know cement is more or less shortlived, of course, but I believe during the life of the cement filling a tooth is protected, and that the cements we now have are quite impervious, and that they are not only impervious but adhere to the walls of the cavity and are the tightest things we have, whether protected or not. We know we have decomposition more readily in some mouths, and cement decomposes frequently at the cervical margin because of the frequency of lactic acid in that place. Cement fillings decompose also in some hidden place, where fermentation takes place and lactic acid gets at them, but I have been unable to observe that there were recurrent caries under cement fillings until this cement began to decompose. Now, whether or not cements are antiseptic, I cannot say. I can say that cement in itself is as inert as sand, if dry, but in the presence of moisture it decomposes, resulting mostly in phosphoric acid solution. Under some conditions some surfaces of cement fillings, when moist, may become antiseptic, but not the under surface, which, according to Ames, does not become antiseptic, for the reason that this cement is so strong that the moisture is immediately taken up from the open ends of the tubuli into the body of the cement filling. The hydraulic cement has a great affinity for water and immediately takes up what is in the open ends of the tubuli to make itself what it ought to be, the natural acid, the ortho-phosphoric, and I do not think it can become moist enough to decompose sufficiently to soften dentine or cause recurrent earies. feel pretty certain about the cement. I do not believe that the cements are likely to invite many recurrent caries, but so far as the other filling materials are concerned, we are as far from definite conclusions as we have been for a good many years.

One thing the essayist spoke of which Dr. Miller had called attention to, was the cause of recurrent caries from failure of extension. I think there is no one thing which will teach a greater lesson on extension than the introduction of a gold inlay, for the reason that our cavities have to be opened to insert them. In the kind of recurrent caries shown here, in the kind underneath our fillings, it looks as though the infection had gone down into the tubuli beyond the place where disinfectants would reach. We have no evidence from these charts that these cavities have been disinfected, or that this disinfection was effective, consequently the lesson we are to draw is to do more excavation at the bottom of the eavity, and a great deal more effective disinfection, in completely excavated cavities.

Dr. N. S. Hoff, Ann Arbor: I cannot refrain from expressing my gratification to Dr. Bunting for the excellent presentation he has made to us this evening. It certainly ought to be very helpful in suggesting at least more earnest endeavor on our part to prepare our filling materials with more care. I could not help but wish, while the slides were being presented to us, that more sections could have been made in a transverse direction, so that we might determine, if possible, whether or not there might have been some external opening or opportunity for the ingress of decalcifying influences. It has been my observation that under oxyphosphate cement fillings we often have a softening of the dentine, and it has never occurred to me that this was due to imperfect manipulation prior to the insertion of the filling. I have always supposed that recurrent caries were due to reinfection from without, from some external influence or disintegration of the filling material. I have observed in

this connection, also, that in gold fillings or in tin fillings we do not have this same softening of the dentine beneath the filling; especially with tin fillings we are likely to have hardening of the dentine rather than softening. In amalgam fillings we have this softening of the dentine under the filling similar to that in the cement filling but not, in my judgment, to the same extent. This observation of mine, from clinical experience, leads me to suspect that there must be some external influences to account for this recurrent caries beneath these fillings. As I looked at the pictures, as they were passed through the lantern this evening, it seemed to me that it was not possible that all of this amount or extent of caries could have occurred unless there had been an opportunity for the ingress of some external cause, which would invite recurrence. I should be very glad if Dr. Bunting would continue this research and make in the future enough transverse sections to determine the condition of the enamel and the dentine about the fillings.

As to the influence of the materials themselves, as to whether they are antiseptic or not, and whether they have any restraining influence or not, I do not believe that could have anything to do with the conditions as we find them, because under the disintegrating influences of cements, for instance, there is nothing liberated that would have a sterilizing, or even a restraining or inhibiting influence, not even an antiseptic influence, and especially is this true of amalgam. In the latter we have only the salts of the metals formed; these would be soluble and readily dissolved out and would have no permanent restraining influence, consequently they would not disinfect or sterilize the conditions, and would permit the recurrent caries. They certainly could not have the influences which Dr. Black and men who have followed his theory as to the cause of dental caries claim; we could not have the development of the mucoid or gelatinous plaques of micro-organisms which cause ordinary caries on the surface, and it does not seem to me reasonable that we could have the anerobic micro-organisms develop to such an extent as to cause the amount of caries beneath the fillings shown in the slides. Whether or not, had Dr. Bunting cut more of these slides and found a lesser amount of caries, he would have suggested a different contlusion, I cannot say; but it would require a large number of slides to give us data from which to arrive at proper conclusions as to what causes this recurrent caries, whether defective filling materials or instrumentation from the start, or whether it was caused by subsequent infection due to faulty conditions of the material used. such as shrinkage of the amalgam or dissolution of the cement under the influence of saliva in the mouth. I do not myself believe that this could account for it. Just what this influence is, as I said, it seems to me can be determined only after a much larger investigation or research on this subject, and I trust all of you will encourage Dr. Bunting to go on with this research, because it seems to me that it is an extremely valuable one and will ultimately lead to results of significance to us in determining what is the cause of the recurrent caries under our filling material.

Dr. Geo. Zederbaum, Charlotte: The discussion being limited to two minutes, I will endeavor to say what I have in my mind in that period of time, and hope some one will stop me if I transgress over the allotted time. I paid minutest attention to the paper and illustrations just given us, and congratulate Dr. Bunting for his excellent scientific work along the line he has taken up. I was much pleased to hear him, as well as the other practitioners, who so ably discussed the subject in hand. As well as Dr. Loeffler, I realize that this is a very important and a very extensive subject to deal with, and right here I wish to emphasize what had been already said by Dr. Bethel and others relative to the scientific part of our profession. This must not be neglected by any means. While I will admit that the exhibition and the discussion of subjects technical in nature are of great consequence, I will place an emphasis on the scientific, the literary, the knowledge broadening portion of our profession which must not be forgotten, for, after all, it is upon just such knowledge that the success of our technical, manual work, if you please, depends. Who knows but what Dr. Bunting's scientific research of to-day may not bring something hidden

from light and may not serve to revolutionize the handling of different filling materials or may not show the necessity for the preparation of cavities different from the present modus operandi? I wish to ask Dr. Bunting a question or two which are uppermost in my mind, and I know that he will answer them if he can. I would like to know whether he has noticed any difference between the sections obtained from teeth that were pulpless and those from living teeth. While I realize that the recurrent caries under a filling of a pulpless tooth may, in themselves, not be of any great import, yet, for the sake of comparison, such a comparative examination may not be amiss. Another question, and over which I have pondered a good deal, is this: Why is it that after a thorough preparation of a cavity, including of course of the total removal as far as possible to discern it, of all decay, not forgetting the coneshaped spot to which Dr. Bunting laid much stress, say in an occlusal cavity of a molar, and which cavity, owing to its extreme sensitiveness, was lined with an oxyphosphate cement and finished over with amalgam, and all this done under strictest antiseptic conditions, rubber dam and all, why is it, I ask, that while everything seems perfectly quiet for a short time, say for a few days, the pulpitis sets in and no relief can be obtained until the whole filling is removed and the tooth devitalized after all? I am often in doubt whether a cement lining in a deep-seated cavity is of any great value after all, and I never can assure my patients that that filled tooth with a protective lining would be absolutely normal for time to come.

Dr. Bunting (closing the discussion): I want to say that both questions of Dr. Zederbaum are well put and well taken, but I can answer neither of them at all creditably. In the first place, as to the difference in appearance of the dentine beneath fillings which are placed in dead teeth against those placed in live teeth,—I have a few cases in which the pulps have been filled with gutta percha and the amalgam has been extended under the pulp chamber; the fillings perfectly protected the dentine and were in good condition. Of course, if the pulp is dead, we will usually find little of the transparency shown underneath the filling, because that has to be formed during the life of the pulp and would not be found in dead teeth. Relative to pulpitis found underneath fillings, or combination fillings, I don't know what to say. Had not Dr. Ward made such an emphatic statement as to the absence of any liberation of acids on the under side of the cement filling before Dr. Zederbaum asked this question, I would have answered by saying that there was a liberation of acid there due to the presence of moisture in the tubules, which would combine with the cement and liberate free acid, which acid would be irritant to the pulp.

Dr. Zederbaum: The point was that Dr. Ames claims arsenical poisoning is impossible in these cases, but I believe that there is something in it after all and that the arsenical poisoning causes the trouble.

Dr. Ward: He attributes it to fillings which had been made of softly-mixed cement containing excessive liquids, which irritates the pulp.

Dr. Bunting: There are a great many things that need to be worked out, and I should like very much to do further work along this line, but the trouble is that to do work of this kind we must have material, and I have used up all the material I have and do not know where I can get more. I should be very grateful if you who are here to-night would remember me in the time to come by sending the filled teeth you extract. Collect and send them to me, putting them in an antiseptic solution—if you put them in water there is apt to be a fermentation, which will change the filling or the tooth, but a mild antiseptic solution will keep these nicely. I will be grateful to you for them, and will make the best use I can of them.

One word in regard to cements. I spoke emphatically about the failure of cement fillings to protect teeth from decay. How long is it before our average cement filling gets flattened, loses the contact point and allows formation of the "V" shaped space at the gingiva where the recurrent caries will undermine? Those are the things which I deplore, and I cannot put any dependence on the all-cement filling. The combined cement filling is the best thing of which I know.—The Dental Summary.

# ANOTHER VIEWPOINT OF THE TAGGART CASE

New York, July 10, 1909.

Editor of The Dental Brief:

I have been following the various communications regarding the "Taggart Case" with considerable interest. We have had Dr. Johnson's masterly article on the tragedy of Dr. Taggart's position; the articles by Dr. Noyes giving expression to the loyalty of a friend, and a fair statement of the debt of honor and gratitude due Dr. Taggart from his professional brothers, and Dr. Ottolengui's statements of the pros and cons of process patents; and now we have Dr. Bryant's communication regarding a recent decision of the Supreme Court, which may have a direct bearing on the case.

There is, however, still another side of the controversy which has not yet appeared in print, that I am aware of, but it is brought to my attention frequently as I mingle with the younger men. Please understand that what follows is not so much an expression of my own views as it is an attempt to give expression in a concrete form to the views that have been voiced to me by many men.

So far most of the communications have been from men who know Dr. Taggart personally, and have been aware of his aims and purposes for a considerable time. These men have also been in a position to follow the progress of the cast inlay question from the start, and are more or less familiar with all the points, both technical and moral, that are involved. But there is a large number of men so situated that most of their knowledge regarding new things comes from reading an occasional article in some dental journal, or, perhaps, more frequently from conversations with salesmen from the supply houses. Many men who were following the development of inlays in general received their first knowledge of the Taggart methods in this way.

The idea that first went the rounds was that Dr. Taggart had patented a machine for casting inlays from wax models, but that the making of the models was just a natural evolution from what had gone before. Inquiries for the machine brought forth the information that they were not ready, and it could not be told when they would be. In the meantime, dealers were prepared to supply small and inexpensive machines that would answer the purpose, after a fashion, and which were said not to infringe on Dr. Taggart's patents. Many men purchased such machines in good faith to experiment with, and gold inlay clinics were freely and frankly advertised on nearly every convention program. During this time not a word was heard publicly that such clinics or experiments were an infringement upon the rights of Dr. Taggart.

Finally a few of the Taggart machines appeared and clinics were given with them, but with very indifferent results, and it was stated by the representatives of the Taggart Company that the machine was not yet perfected, and that orders could not be filled within any definite time. In the meantime, nothing was heard about process patents and men were encouraged to develop the required technic and to give clinics on their methods.

Many men anxious to obtain a good machine wrote to Dr. Taggart personally seeking information as to how and when his would be ready and regarding his further intentions in the matter, but communications of all kinds were unanswered. Nothing could be learned from our regular dealers, who were as much in the dark as the rest of us.

Suddenly there appeared, in a few of the journals, an advertisement stating that the Taggart machine was ready, and its price. This was followed by another advertisement stating, in effect, that all other machines were infringements and users were liable to prosecution for damages. Later still another advertisement appeared which stated that the process of making the wax model had been patented and that infringers would be prosecuted, and that the price of the machine had been increased in order to defray the expenses of such prosecutions. And yet during most of this time dealers were unable to supply the machine, and appeals to Dr. Taggart remained unanswered. The next heard was that suit had been brought against a fellow practitioner for casting gold inlays; exact and reliable details being lacking.

Now the position many men find themselves in is this: They have developed a demand for and a skill in making gold inlays. They have been using various incomplete machines as a makeshift that were purchased in good faith from reliable dealers. The advertisements of the Taggart Company have not appeared for some time, and as far as the general profession knows, it may be out of existence. Inquiries made of dealers simply bring the answer that they know nothing about it, or when orders can be filled, which means that the machine cannot be generally obtained. And yet many, very many, men are in a position to be mulcted for heavy damages because they do not possess an elusive machine of immunity.

Now about the moral side of the issue: There are many men, who, after looking into the merits of the Taggart machine, feel that it is not a good investment, but they do feel under obligations to Dr. Taggart for his work in perfecting the process of casting and believe that he is justly entitled to recompense for his labors; and many of them would gladly pay to him an amount which would represent his profit on the machine or whatever he considers just and fair. But, while overtures of this

nature have been made, no notice has been taken of them, and we are as far at sea as ever.

Men say to me: "We are told we must buy a machine to pay a moral debt to Dr. Taggart, but we can't seem to get one even if we want it. We are willing to pay a reasonable sum to him for his labors, but we are entirely ignored. In the meantime, we may be held liable for heavy damages. Please tell us 'where we are at.'"

Before making a wholesale condemnation of men's morals in a case like this, it would be well to remember that most men mean to be honest, but that their sources of information may be limited; that most men desire to be just but cannot afford to be extravagantly generous; that Dr. Taggart owed a debt of frankness and candor to his brother professional men before they owed him any cash return.

A perfectly frank statement from Dr. Taggart would even yet clear up the situation and prevent a widening of the breach between many men of many minds.

FREDERICK CROSBY BRUSH, D.D.S., 1181 Broadway, N. Y.

[Dental Brief.]

# SENSE AND NONSENSE AS TAUGHT IN AMERICAN DENTAL SCHOOLS

BY EUGENE S. TALBOT, CHICAGO

Made still a blund'ring kind of melody; Spurr'd boldy on, and dash'd through thick and thin, Through sense and nonsense, never out nor in.

-Dryden.

This subject was suggested by Professor James Truman's paper, "Wanted!—A Pathological Sense,"\* in which he made the following statement: "The man with a clear pathological intuition is seemingly a rare production in our ranks, if we are to judge by the serious mistakes presented in almost every line of dental operations." Why should he blame the poor misguided graduate for not being possessed of a pathological sense? In other words, why did he not lay the blame where it belongs, namely, on the education of the dental student in the dental school? Water cannot flow higher than its source. The dental graduate should not be expected to, nor could he possibly, know more than his teachers. A large per cent. of the papers and books (outside

<sup>\*</sup> Cosmos, August 1907, vol. xlix, p. 815.

of those dealing with the mechanics of dentistry) that are read and published reflect the teaching and the teacher, since no original thought is displayed by the authors along biologic lines. It is only necessary to attend dental meetings (national or State) to notice the drift of the profession. Examine the program of any one of these meetings and you are reminded of circus side-show advertisements, announcing the attractions in large type and flaming colors. The profession for the last twenty-five years has been gradually drifting and drifting, because dental school teachers have made mechanics the principal goal.

Yes, Dr. Truman is right—"Wanted!—A Pathological Sense." But who are the members of the profession that need that pathological sense more than any other? If our profession is to be recognized as a part of the healing art, if the practitioners of dentistry are to acquire a knowledge sufficiently broad to render the best possible service to the laity, it is the teachers in our dental schools that require the "pathological sense," and not the nonsense that is given so much time in present methods of teaching and is laid down in the text-books.

There are some good dental schools and there are poor dental schools. There are good dental teachers and there are poor dental teachers. The environment, however, is the same in all the schools. The teachers of the better schools which keep the standard down make the excuse that they must stand by the weaker schools, thus keeping all schools upon a low educational basis; also by this method the teachers are not compelled to study and keep posted on the latest research. A professor of more than forty years' standing and principal owner of a dental school, in closing the discussion of a senile paper he had read in a dental society upon a subject which he has been teaching all these years, in reply to a sharp rebuke for such antiquated ideas, said that he "had not the time to do research work." This is a very poor excuse for a teacher who is preparing students every year to go forth into the world to relieve humanity of their sufferings. This teacher could, were he so disposed, read the reports of others who do find time to do research work and profit thereby. But for some reason—which is not hard to define—he has failed to do so. Students, therefore, who graduate from his institution are sent out into the world with many of the ideas of the ancients.

What is true of this teacher and his school is also true of others. Instead of dental teachers being educated in biologic subjects so as to be able to decide if research work done by others is logical and reasonable, and to give credit for such work (as is the case in all other departments of science) and adopt it in their own teaching, they know nothing of the subject under discussion, and care less. The mechanics

of dentistry is good enough for them, and being good enough for them is good enough for the student, regardless of the fact that the world is progressing and that more is demanded of the dentist to-day than when these teachers began practice.

As time goes on and our knowledge increases, the dental graduate must have a better conception of the general system, for every pathologic condition of the mouth is dependent upon the patient's general health.

Since "Swan Songs and American Dental College Degeneration"\* appeared, some teachers have been singing swan songs with renewed strength and vigor. The reason is obvious for this fresh outburst of song. The old swan is growing more senile every day. Hypodermic injections of saline fluids and nitroglycerin are necessary to keep the heart beating in the old swan (schools of mechanics) and prevent the death of the bird "that laid the golden egg."

Let any stomatologist or group of stomatologists discuss the subject of a better and a more thorough education for the dentist, and immediately guardians of the "schools of mechanics" commence to sing. Three favorite songs are, first, "Medical college teaching is faulty," and therefore excuse enough for faulty dental college teaching; second, the "touch system," and third, "The medical graduate is not as well qualified to practise medicine as the dental graduate is to practise dentistry."

Apparently, little impression was made upon the songsters by my paper, hence I am taking up the subject again and trying to promote the importance of reorganization of dental teaching. To answer the first song, the teacher who will try to excuse his own shortcomings or those of his school by the contention that other individuals or schools are faulty is within the pale of ignorance.

In dental teaching, discussion, argument is never heard in favor of improvement as in other educational lines. Each year, teachers of all schools—public (including high), law, medicine, and theology—meet to discuss advancement. Not so with the dental teachers. Commercialism is apparently the god, first, last, and all the time. The great question is how to prevent improvement and reduce the cost of teaching to a minimum; hence the swan songs.

The meeting of the Institute of Dental Pedagogics held at New Orleans, December 31, 1907, is a splendid illustration of this thought. Papers and discussions bristle with these ideas. To quote from one: "While dentistry is closely connected with general medicine, a full and comprehensive knowledge of all branches of the latter is not needed for its successful practice. At the meeting of the F. D. I. held in

Stockholm in 1906 the following studies were selected as being essential to the general education of the dentist: Physics, chemistry, anatomy, histology and embryology, physiology, physiological chemistry, bacteriology, materia medica and therapeutics, general and special pathology, general and special surgery and physical diagnosis. These general medical branches, together with the special dental training, will prepare the student far better to enter upon the actual practice of dentistry than if he were to possess a complete knowledge of the whole field of medicine."

How much more has he to learn to obtain a medical degree? Will a partial medical training prepare the student "far better to enter upon the actual practice of dentistry than if he were to possess a complete knowledge of the whole field of medicine?" The essayist answers this question in closing his discussion. He says, "We are constantly graduating men who are going to European countries who stand absolutely without any foundation. The medical graduate of the country to which he goes has every privilege and has many more that the dentist does not have, and yet we have apparently said or done nothing to relieve them. We have been relegated into oblivion by the Society of Stomatology. Some expression ought to come from this body. This is the teaching body, and, as such, to this body will the profession of the future look as to the outcome of the profession of dentistry."

Why not form trades unions, ye teachers of mechanics, and place yourselves on record, pass rules and regulations asserting the authority of the D.D.S.? Why undertake to teach "physics, chemistry, anatomy, histology and embryology, physiological chemistry, bacteriology, materia medica and therapeutics, general and special pathology, general and special surgery and physical diagnosis?" Why waste the precious time and money of the teachers and students of the college, since they would be only partially taught and would receive only a partial degree of culture? The conferring of such a degree after a student has spent four years of study would represent only a half-cultured graduate. This is the reason why the medical schools of America have refused to allow the graduate of dentistry one year toward a medical education. Is not this a snub for the present methods of dental college teaching? A poorly educated practitioner with an M.D. degree always stands better in a community, both socially and professionally, than the best of educated dentists with the D.D.S. degree only. This is and always will be the case, since the medical profession will never recognize, as an equal, a practitioner with the badge of an inferior degree. This argument has been recognized and reiterated many times even by dental teachers.

Will the profession look upon the teaching body for its future outcome? This will depend upon the wisdom of that body. If it does not improve more than it has in the past twenty-five years, I am afraid not.

Have we been relegated into oblivion by the Society of Stomatology? Yes; since the meeting of the International Association of Stomatology, August 1, 1907, through its influence great changes have taken place and are about to take place in European countries in relation to the

practice of dentistry, as I anticipated in a previous paper.

Schools of stomatology are springing up, and laws are about to be enforced requiring men to be medical graduates who treat diseases of the mouth. Already the Italian stomatologists have organized an Institute of Stomatology in which graduates of medicine will receive instruction in that specialty. This institute, which has been open since January 15, 1908, was temporarily established in the Clinical Institute of Milan, and was officially dedicated November 3, 1908. A similar institution is about to be established by stomatologists in France. In both these institutions only graduates of medicine are to be received as students.

A Vienna letter to the Journal of the American Medical Association on "The Regulation of Dentistry in Austria," says: "By a bill which will go into force in a few weeks the long quarrel between the dental surgeon and the now medical dentists will be settled. . . . The medical profession was unable to grapple with the situation because the law was inadequate. In fact, the position has become so bad for the dental surgeons that the dentists even disputed the doctor's right to make artificial teeth and to fit them in the mouths of patients. According to them, nothing but purely surgical dentistry-extractions and operations on the alveolar process—should be the domain of the dental surgeon. By the united efforts of the profession, who saw the danger of that sort of argument, the attack was repelled and an arrangement was agreed on stipulating that all present licenses of dentists should remain in force, allowing them, besides making artificial teeth, also to fill carious teeth; while all those who are not yet licensed qualified dentists will be licensed within three years. After that time, only medical men will be able to obtain licenses to practise dentistry."

According to a report to the United States Government by the American consul to Belgium, a similar law will go into effect at about the same time. A law requiring dentists to be graduates of medicine will go into effect soon in Italy. Advanced steps along these directions in other countries are about to be taken. It will be seen, therefore, that

the teachers of mechanics in this country are still napping. Would it not be well for those teachers who will not wake up to the situation, to let their institutions remain as they are and receive students who are medically educated, to perfect them in the mechanics of their chosen calling?

Other countries are awake to the fact that diseases of the face, jaws, and teeth go hand in hand with other diseases of the body, and are making provision to educate men to cope with the advance made by scientists. The teachers in American dental schools, Rip Van Winkle like, will wake up some day to find their laurels gone.

The second song, the "touch system" (Gray), has worked successfully so many years that it has become a nursery rhyme. Any advancement or improvement in dental teaching suggested by stomatologists (always looked upon as parvenus), is answered by the immediate singing of the above nursery rhyme. One professor has "gone daft" on this particular song. He has sung it so long, so often, that it is almost a byword with him, the main point being the earliest training possible at which the student is to commence his "finger and arm gymnastics." He pushes this idea so far that he would even have the fetus, as soon as bone and muscle formation permit, beat the walls of the uterus to obtain that "delicacy of touch so necessary" in mechanical manipulation. The songster does not consider the agents located throughout this country and Europe who solicit ungainly, impracticable, unteachable, ignorant candidates to fill the "diploma mills" and become the future so-called professional men.

The third song, "The Dental graduate is better prepared to practise dentistry than the medical graduate is to practise medicine," depends upon what constitutes dentistry. If making artificial dentures, extraction, crown and bridge-work, filling teeth, etc., constitute dentistry, then I agree with the author of that statement. If, on the other hand, the treatment of deformities and diseases of the mouth due to or associated with other pathologic conditions of the body is a part of dentistry, then the statement is not tenable. That such statements can conscientiously be made must be due to the ignorance of the author. To prove the falsity of this third statement, I have only to discuss one condition of the mouth. All admit oral hygiene to be one of the most important branches of science. The mouth being the vestibule through which all nourishment and in some cases much of the air we breathe enters, it stands to reason that this organ should be kept scrupulously clean and healthy. Yet, with all the boasting of dental teachers of their ability to teach dentistry, the very condition of the mouth, most important to

the physician, surgeon, and dentist, is not taught to any appreciable extent in any dental school. At least the graduate has had little or no impression of the subject made upon him in the dental school.

Each article published on oral hygiene is identical. Only a small per cent. of the dental profession practise first principles. They do not know or practise oral hygiene, because it is neither taught nor practised in dental schools. The dental student may or may not have heard lectures upon the subject. The papers read by teachers in public, the discussions, the condition of the mouths of patients, the text-books, and general methods of practice, or rather want of practice, show this lack of knowledge on the subject. The student goes from the class room into the infirmary with an uncleanly mouth; he operates upon uncleanly patients. Practising what he ought to have learned or is supposed to have learned of oral hygiene in the class room is never considered in clinics, therefore dental students give their office patients but scant justice. Patients with inflamed and puffy gums, bleeding upon the slightest touch, thick ropy saliva and fetid breath, are operated upon until all mechanics have been performed, and no attention is paid to mouth pathology and cleanliness. Such lack of oral hygienic training does not fit the graduate to undertake and succeed in office practice. Many times in clinics I have called attention to the uncleanly mouths of students and patients, and have asked why these mouths are not in a healthy condition before the mechanical operations are performed. The students' reply has always been that they were "not required to do so."

Teachers in the dental schools do not seem to comprehend what oral hygiene means, much less teaching it. In a conversation with five teachers of different schools, two of whom were deans and three taught pathology, each resented my statement that not one dental college in the country taught oral hygiene. Each assured me that their college did teach it and therefore their school was an exception. In no case was I able to convince them that they were wrong. I visited each clinic afterward and found that not one student who was operating had any conception of what oral hygiene meant. If these students had really heard lectures upon the subject, the lectures were "lost upon the desert air."

This condition of affairs should be condemned, for the oral cavity is the most prolific germ-collector of the body. Many diseases are due to uncleanly mouths. A. H. Levings\* demonstrated that germs of the mouth produce tuberculosis, actinomycosis, osteomyclitis, thrush, anthrax, crysipelas, ulcerative and gangrenous stomatitis, pyorrhea,

<sup>\* &</sup>quot;Surgical Bacteria of the Mouth."

alveolaris, and caries. His experiments, together with cultures from the mouths of thirteen patients suffering with hare-lip, epithelioma, carcinoma, sore mouth, sore throat, acute pharyngitis, canker, tonsillitis, tuberculosis and pyorrhea alveolaris, showed large quantities of pyogenic and pathogenic germs, to say nothing of other germs and inflammations. Dr. Harvey Cushing of Baltimore first showed the importance of sterilization of the mouth in operations upon the stomach and alimentary canal. In these days of prophylaxis, when so much is written and discussed in regard to cleanliness of the body, what can be thought of a specialty avowedly devoted to the study of the diseases of the mouth and teeth, which does not teach or practise oral hygiene?

Oral hygiene should be one of the principal subjects of lecture-room and clinic teaching. Signs in large type, "Oral, personal, and college hygiene," should be placed in all college rooms, so that teachers and students should not forget or ignore this most important factor of health. Many dental college operating rooms are very dirty. They should be as clean and aseptic as surgical operating rooms. After students have been properly educated in the theory of hygiene in the lecture-room, they should return to the clinic and put into practice what they have learned and heard in the lecture-room. The venerable adage, "First cast out the beam out of thine own eye, and then shalt thou see clearly to cast out the mote out of thy brother's eye," is a good motto. Students should first operate upon each other and upon the teachers, placing the mouths in a healthy condition. By instruction in the class room and personal clinical observation they should be competent to put the mouths of their patients in a thoroughly hygienic condition before attempting dental operations. Such examples as those demonstrated by Gordon White of Nashville and D. D. Smith of Philadelphia are none too good for teacher, student and practitioner.

Dental teachers on pathology and hygiene may be compared to the army surgeons in the late Spanish-American, English-Boer, and Russo-Japanese wars. These surgeons knew very well what hygiene meant to the soldiers in relation to disease, yet camps were constructed in such manner that sixty-five per cent. of avoidable illnesses occurred in the American army, and a large percentage in the English. What a comparison with the Japanese in their war with Russia, where only about two and one-half per cent. of illnesses occurred! The Japanese surgeons not only knew but they put into practice what they knew. Dental teachers know that they are not teaching as they should, and they also know that the dental graduate is not obtaining that for which he has paid his money or what he should expect. The commercial side of the problem seems to have the most weight.

# DO TEACHERS NEED "A PATHOLOGICAL SENSE"?

To demonstrate that I am correct in my deduction, it is only necessary to review the literature for the past year and note the lack of proper training of some dental teachers as demonstrated by the nonsense therein contained.

Two professors, in discussing interstitial gingivitis in different societies, stated that interstitial meant between the teeth, and as pyorrhea alveolaris extended around the tooth, the term could not possibly be correct. The premises of these teachers being incorrect, the entire argument was useless. Another professor, in discussing mouth degeneration, had brought a number of casts of cleft palate to the meeting. He said that he had made a complete study of degeneracy, but that none of the persons whose models he exhibited were degenerates. Still another teacher has established a factory for the express purpose of manufacturing a special pathology to exploit pet theories. A professor of orthodontia teaches his students that protrusion of the jaws is due to the use of forceps in delivery—the force used in traction causes the jaws to protrude and produces other malformations.

One of the most senile articles written lately is the chapter published on page 451 of Professor C. N. Johnson's work, "A Text-book of Operative Dentistry." Not content with inflicting his prehistoric ideas on his own students, the author must incorporate them in a text-book, which poor students of other schools are compelled to study and to use as a basis for future methods of treatment! To show that this teacher is dealing out chunks of knowledge from the ancient tombs of the Egyptians and is still living in the dark ages, it is my purpose to analyze a part of the chapter.

Regarding the subject "pyorrhea alveolaris," at least six or eight progressive dentists (who have given considerable thought to it) have called attention to the fact that the student could not understand the various inflammations of the alveolar process which take place from eruption of the deciduous teeth until the permanent ones are shed. Pyorrhea alveolaris is not a disease, but the result of a disease; inflammation is located in the alveolar process most of the time, while pyorrhea is only occasionally observed. The author of this article, then, is not only oblivious to suggestions made but is unable to comprehend the latest researches. The first paragraph of the chapter is unique. The author says, "The work of writing upon the subject of 'pyorrhea alveolaris' in a way to enable the dental practitioner to more successfully cope with that most distressing and destructive condition surrounding the dental organs becomes difficult only on account of the

fact that members of the dental profession have so often been led to believe by a majority of the writers upon the subject that the disease is the expression of systemic conditions, and that until these conditions are corrected the treatment is well-nigh hopeless."

Why is it difficult to write on the subject? Is it because the author does not comprehend the systemic conditions, or is it because he cannot explain them? These systemic conditions are very common in a large majority of patients, but he cannot, from his own viewpoint, understand these pathologic disturbances; hence he says that "the treatment is well-nigh hopeless." The author is not a student of disease. He has stated publicly that he has never made researches along this line. Even if he never made that statement his article would be sufficient proof. A "majority of the writers upon the subject" are thinking men and have done research work to prove their findings. Their conclusions, therefore, are worth more than those of a man who has done none.

The second paragraph is also interesting. The vriter says, "The operator who is a student of disease, if he gives credence to these statements, is also well aware of the fact that the diseases of faulty metabolism, or those resulting in faulty metabolism—which, according to these writers, are largely causative of the condition known as 'pyorrhea alveolaris'—are diseases rarely cured, or even greatly modified; and we can then readily see that logically the operator hesitates to undertake a task which promises so little success to the operator or benefit to the patient."

This is a remarkable statement—that auto-intoxications "are rarely cured or even greatly modified." Faulty metabolism always occurs in pregnancy resulting in interstitial gingivitis. After the child is born, the system adjusts itself, and the faulty metabolism is corrected. Auto-intoxication takes place in all diseases, which is almost always removed when the patients get well. Auto-intoxication takes place from overeating and drinking, which is corrected when the patient eats and drinks with moderation. The aim of the modern physician is to prevent or remove auto-intoxication. There never was a case where faulty metabolism caused pyorrhea alveolaris. Faulty metabolism causes inflammation of the alveolar process, and if pus germs be present they infect that part. If pus germs be not present the disease will continue and the teeth loosen and become exfoliated without pus infection.

The third paragraph is fully as remarkable as the first two: "At the outset of this brief consideration of the subject, the author desires to state with a confidence based upon observation and experience for over twenty-five years, that the condition or disease commonly known as 'pyorrhea alveolaris' is amenable to treatment, effecting a cure as

readily and satisfactorily as the other lesions of the dental organs, whether the systemic conditions which affect the progress of the disease are present or absent."

This statement shows the demarcation between the "tooth-carpenter" and the scientist. The tooth-carpenter, after "twenty-five years' experience," can treat successfully, "readily and satisfactorily," pyorrhea alveolaris, "whether the systemic conditions which affect the progress of the disease are present or absent." Here he does admit that systemic conditions influence the disease. Interstitial gingivitis due to pregnancy, drug poison, metal poison, scurvy, and auto-intoxication due to disease or otherwise, can be readily cured by local treatment. The question naturally arises, from this viewpoint, How can one tell whether the disease be cured or not? If the disease is of local origin, why do we find arteriosclerosis of the bloodvessels in so many patients suffering with interstitial gingivitis, as I have demonstrated and published? Can constitutional diseases be cured by local treatment?

Although this chapter is intended for the education of dental students, nothing is said of the etiology of this disease. Evidently the author "cannot see the forest for the trees." Nearly every paragraph of the entire chapter is open to similar criticism, but a separate analysis of each would render this paper too lengthy. To realize that the author is living in the past and knows nothing of modern researches, it is only necessary to read the article through and note the quotations. The senility of the entire article is readily seen when he quotes from his own article written in 1889 and also refers to the work of the late Drs. W. H. Atkinson and Riggs."

For the treatment he refers to the "American System of Dentistry," published in 1886, and to the methods of the late Dr. Riggs. He does, however, speak of certain instruments, which are only modifications of those used by the early writers upon this subject. Are the researches of Michaels, Kirk, Gordon White, D. D. Smith, Peirce, Briggs, Rhein, of so little importance?

For more than fifteen years I have advocated and discussed the subject of advanced teaching with members of the best schools. The principal point suggested is that those dental departments connected with the best universities should unite and organize their own national body. Some of these teachers, being loyal to the weaker schools, have insisted that their institutions should stand by these schools. The point I have made is that, by this action, university dental teaching in the eyes

<sup>\*</sup>I do not criticize the estimable investigations of these two gentlemen in the early study of this disease. Modern researches, however, have given us a better understanding of the etiology as well as the treatment of pyorrhea alveolaris.—E. S. T.

of the laity and the profession is no better than in the weakest and poorest schools. I still maintain the point that the university schools must unite in a national body, and that the university and not the dean and the board of directors must decide the character of its teachers and their teaching.—The Dental Cosmos.

# BOOKS RECEIVED

- A HISTORY OF DENTISTRY. From the Most Ancient Times until the End of the Eighteenth Century. By Dr. Vincenzo Guerini, Cav. Uff. Surgeon-Dentist, Naples, Italy, Dentist to the Royal House, Doctor of Dental Surgery ad honorem of the Chicago College of Dental Surgery, etc., etc. Large octavo, 355 pages, with 104 engravings and 20 full-page plates. De luxe, cloth, \$6.00 net. Lea & Febiger, Publishers, Philadelphia and New York, 1909.
- The Principles of Bacteriology. A Practical Manual for Students and Physicians. By A. C. Abbott, M.D., Professor of Hygiene, University of Pennsylvania. New (8th) edition, thoroughly revised. 12mo, 631 pages, with 100 illustrations, 26 in colors. Cloth, \$2.75 net. Lea & Febiger, Philadelphia and New York, 1909.
- Dental Materia Medica, Therapeutics and Prescription Writing. By Eli H. Long, M.D., Professor of Materia Medica and Therapeutics, Medical and Dental Departments, University of Buffalo, New York. New (3d) edition, thoroughly revised. Octavo, 311 pages, with 6 engravings and 18 colored plates. Cloth, \$2.75 net. Lea & Febiger, Philadelphia and New York, 1909.
- A Manual of Chemistry. A Guide to Lectures and Laboratory Work for Beginners in Chemistry. A Text-book Specially Adapted for Students of Medicine, Pharmacy and Dentistry. By W. Simon, Ph.D., M.D., Professor of Chemistry in the College of Physicians and Surgeons, Baltimore, and in the Baltimore College of Dental Surgery; Emeritus Professor in the Maryland College of Pharmacy; and Daniel Base, Ph.D., Professor of Chemistry in the Maryland College of Pharmacy. New (9th) edition, enlarged and thoroughly revised. Octavo, 716 pages, with 78 engravings and 9 colored plates, illustrating 64 of the most important chemical tests. Cloth, \$3.00 net. Lea & Febiger, Philadephia and New York, 1909.

# OBITUARY

One of the leading dentists of New Hampshire for many years, Dr. ELKANAH BARNEY HOSKINS, D.D.S., of Lisbon, died at Whitefield on July 1st, after a lingering illness caused by creeping paralysis.

Dr. Hoskins was born in Lyman, N. H. in 1852. He acquired his early education from the town schools, supplemented by attendance at McIndoes and Peacham, Vt., academies. His first associates in dental learning were Dr. Perkins of St. Johnsbury, Vt., later with Dr. Webber of Boston and Dr. Bowles of Lisbon. In 1878 he received the degree of D.D.S. from the Pennsylvania College of Dental Surgery and commenced practice in Littleton, N. H.; he removed to Manchester in 1880 where his strong and entertaining personality soon made for him a large clientèle from the representative people of that section.

Owing to ill health of long standing Dr. Hoskins was never able to fully serve the extensive demands of his practice; he was therefore obliged to relinquish active practice and in 1886 moved to Lisbon; here he continued to attend some of his old patients until within three or four years, when his retirement from the profession became complete.

Dr. Hoskins had a wide acquaintanceship with the dentists of New England, who regarded him as among the most expert of his time in cohesive gold work.

He was a man of intellect possessing a vast fund of practical knowledge which he applied not only to dentistry, but to topics of the day; his friends are indeed richer for having associated with him.

He never married and is survived by an aged father and mother. He was buried at Lisbon, N. H.

A. L. Parker, D. D. S.

Dr. Frederick Shively Whitslar, of Youngstown, O., died August 7, 1909. Paralysis caused the passing of one of the city's best known residents just a month before his eighty-fifth birthday at his home, 265 West Boardman Street, where he had lived continuously for sixty years.

Dr. Whitslar was born in Austintown township, then Trumbull county, Ohio, on the seventh day of September, 1824. It is said that there are only two older native born citizens now alive in this section.

His long life has been devoted to various activities. Born in the pioneer days of Ohio he was bound out as a youth to work on a farm. While a young man he taught school in the old log schoolhouses, and later took up the practise of dentistry. He engaged in this profession over fifty years and was one of the pioneers of modern dentistry.

He was active in politics, especially at the time before the civil war, when he was an active anti-slavery advocate. Mr. Whitslar was also first president of the Youngstown city council.

When the great conflict between the North and South broke out he enlisted to serve his country. He was a gallant officer and was highly commended by his superior officers for his bravery. He received an honorable discharge at Camp Dennison on August 27, 1864.

He was a member of Tod Post, No. 29, Department of Ohio, Grand Army. of the Republic, in which he has filled the office of chaplain three different times and senior vice commander. He was also a member of the Delta Sigma Delta fraternity; the American Dental Association; the Northern Ohio Dental Association, of which he was president; Western Pennsylvania Odontological Dental Association, of which he was president; Mahoning County Dental Association; State Dental Society of Ohio; Twenty-second District Missionary Society, of which he was president; charter member and organizer of city library association.

# SOCIETY AND OTHER NOTES

# CONNECTICUT.

The Dental Commissioners of the State of Connecticut hereby give notice that they will meet at Hartford on Wednesday, Thursday, and Friday, November 17, 18, and 19, 1909, to examine applicants for license to practise dentistry. Application blanks, rules, etc. will be forwarded by the Recorder upon request. By order of the commission, Gilbert M. Griswold, Recorder, 783 Main Street, Hartford, Conn.

### MASSACHUSETTS.

The Fifteenth Annual Meeting of the Northeastern Dental Association will be held in the Churchill House, Angell St., Providence, R. I., on the 7th, 8th and 9th of October, 1909. The Officers and Committees intend, this to be a very interesting and instructive meeting.—E. O. Kinsman, Secretary. A meeting of the Massachusetts Board of Registration in Denistry will be held in Boston for the examination of candidates, Oct. 27, 28, and 29. Applications and further information obtained from the secretary, Dr. G. E. MITCHELL, 25 Merrick Street, Haverhill, Mass.

## MINNESOTA.

The members of the G. V. Black Dental Club (Inc.) will hold their midwinter clinic in St. Paul, Minn., February 24th and 25th, 1910. For further particulars address R. B. Wilson, Secretary, 409-10 Am. Nat. Bank Bldg., St. Paul, Minn.

#### NEW JERSEY.

The New Jersey State Board of Registration and Examination in Dentistry will hold their semi-annual meeting in the Assembly Chamber of the State House at Trenton, N. J., beginning Monday, December 6th, and continuing through the 7th and 8th. Applicants for examination must file photograph and preliminary credentials with the application or it will not be received.

### NORTHERN ILLINOIS.

The Twenty-second Annual Meeting of the Northern Illinois Dental Society will convene at Elgin, October 20-21, 1909. An interesting and instructive program is anticipated. A banquet will be served to all members in full membership.—Frederick H. Bowers, Secretary.

#### Оню

The Ohio State Dental Board will hold its regular fall meeting in Columbus on October 19-22, 1909, for the examination of applicants for license.—F. R. Chapman, Secretary, 305 Schulz Building, Columbus, O.

The forty-second annual meeting of the Ohio State Dental Society will convene in the assembly rooms of the Great Southern Hotel, Columbus, on December 7, 8 and 9, 1909. The program of papers and clinics will be second to none of those of the past.

#### WEST VIRGINIA.

The West Virginia State Dental Society will hold its annual meeting at Wheeling, October 13, 14 and 15, 1909.

### EXECUTIVE COUNCIL N. D. A.

A meeting of the Executive Council of the National Dental Association will be held at the Hotel Hollanden, Cleveland, O., at 10 o'clock A. M., Saturday, November 6, 1909, for the appointment of officers of Sections, and the standing committees and the consideration of such other matters as may properly come before it.

Members of the Association having any business to present are requested to attend this meeting.

BURTON LEE THORPE.

CHARLES S. BUTLER, Secretary, Buffalo, September 11. President.

# NEW YORK ALUMNI ASSOCIATION XI PSI PHI FRATERNITY

The Annual Fall Meeting of the New York Alumni Association of the Xi Psi Phi Fraternity will be held at the Hotel Astor, Times Square, New York City, on Wednesday evening, October 13, 1909.

The meeting will be called to order promptly at 8 P. M. As the officers for the ensuing year are to be elected and several important changes to be made in the constitution, it is urgently requested that every alumnus of the Xi Psi Phi Fraternity, residing in or about New York City, be present.

For further particulars, address

J. Norbert Gelson, Secretary, 673 Vanderbilt Avenue, Brooklyn, N. Y.

## XI PSI PHI FRATERNITY

Through the sickness of our Brother Fritz Liermann, 25 Goodrich Street, Buffalo, N. Y., the publication of our Directory has been delayed but will be published not later than November first.

All members of our Fraternity are urged to send their name, year of graduation, chapter and other items of interest immediately to above address. Please give this matter your prompt attention and let our next Directory be complete in every respect.

Fraternally yours,
FRITZ LIERMAN.

The 22nd Annual Meeting of the N. I. D. S. will be held at Elgin, October 20-21, 1909.

F. H. Bowers, Secretary, Freeport, Ill.

# **PATENTS**

928542. Toothbrush holder, R. M. Ryan, New York, N. Y.

930082. Dental engine, O. H. and A. F. Pieper, Rochester, N. Y.

930717. Dental tooth-regulating appliance, E. H. Angle, Larchmont, N. Y.

931044. Cutter for toothpick machines, H. A. Dorr, Providence, R. I.

931143. Rotary toothbrush, C. L. Phillips, Rondout, N. Y.

40231. Design, Barbers' chair, C. Pfanschmidt, Chicago, Ill.

Copies of above patents may be obtained for fifteen cents each, by addressing John A. Saul, Solicitor of Patents, Fendall Building, Washington, D. C.